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I. P. Income for 1941 Is $218,149,111

This Is 33 Per Cent Higher Than Last Year — Profits Also Show Large Increase But Because of Taxes Net Gain Is Relatively Small, Amounting To $16,253,761 As Against $15,696,577 In 1940.

Richard J. Cullen, president, in presenting the 44th annual report of the International Paper Company for the year ending December 31, 1941, in part made the following statement:

Earnings and Dividends

Total sales and other income of $218,149,111 in 1941 was 33% higher than in 1940, the highest previous year in the Company's history. Net profit before taxes based on income also showed a large increase, but because of higher income and excess profits tax rates net profit showed relatively little increase, amounting to $16,253,761 compared with $15,696,577 in 1940. In 1941 a total of $15,046,637 was paid out in dividends on the cumulative convertible 5% preferred stock. In addition to the regular dividends totaling $5 a share, payments aggregating $11.25 a share were made against arrearages eliminating the entire accumulation of unpaid dividends on this issue. All arrears on the cumulative 7% preferred stock of the original International Paper Company were also paid up during 1941 and this stock was called for redemption January 15, 1942.

Working Capital

Net working capital increased $4,198,056 during the year, amounting to $44,411,739 at December 31, 1941.

Among individual current asset and current liability changes, the largest was the increase of $9,516,131 in accruals for income taxes. This is a net figure excluding an additional $10,145,150 of United States federal income and excess profits taxes payable during 1942 for which the Company has provided in advance through purchase of United States Treasury Tax Anticipation Notes.

Holdings of cash increased $3,627,577 of which $2,183,740 represented increased cash of Canadian and other foreign companies. In addition Canadian companies acquired during the year $5,398,250 Dominion of Canada Short Term Treasury Bills.

Simplification

Further major steps in simplification of corporate structure were taken during 1941. The most important step was the termination of International Paper and Power Company. Other important companies eliminated during the year were Southern Kraft Corporation and Agar Manufacturing Corporation with its three subsidiaries. International Paper Company now owns and operates directly all of the principal paper and converting properties in the United States formerly controlled by International Paper and Power Company.

The steps taken to eliminate International Paper and Power Company were described at length in the letters forwarded in connection with the special shareholders' meeting held last September. On September 30, 1941, the original International Paper Company was consolidated into the new International Paper Company which had previously acquired all the assets and assumed all the liabilities of International Paper and Power Company. On October 4, 1941, International Paper and Power Company was formally terminated and its holdings of cumulative convertible 5% preferred shares, common shares and common stock purchase warrants of the new International Paper Company became distributable against surrender of corresponding International Paper and Power Company shares and warrants.

This change in form has resulted in a simplified corporate structure as well as some saving in taxes. Each holder of International Paper and Power Company stock (and warrants) was entitled to receive on surrender of his shares exactly the same number of shares (and warrants) of the new International Paper Company, which shares represent substantially the same interests in substantially the same assets.

The great majority of the certificates formerly representing shares and warrants of International Paper and Power Company have now been exchanged. The remaining International Paper and Power Company certificates represent only the right to receive corresponding shares and warrants of the new Interna-

(Continued on page 12)

Paper Company Dam Erected Ahead of Time

New Massive Du Bay Dam of Consolidated Water Power & Paper Co. Finished With Only Three More Gates To Be Installed — Work On Power House Is Making Good Progress — Other News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 13, 1942—Completion of the massive new dam of the Consolidated Water Power and Paper Company near Knowlton, Wis., has been accomplished ahead of schedule. The last of the concrete was poured a week ago. Construction began last October, and the first concrete was poured in December.

Eight of the eleven steel gates, 30 feet long and 18 feet deep, are in place, and three others will be installed shortly.

The DuBay dam, as it is known, is 570 feet long. Its construction required 29,000 cubic yards of concrete weighing in excess of 60,000 tons. Engineers estimate that if all materials used were included in a single shipment, a freight train twelve miles long would have been required.

The dam will be capable of releasing 90,000 cubic feet of water per second at normal full pond elevation, and will create a flowage of almost 7,000 acres.

Work on Power House Progressing

Good progress also is being made in construction of the power house, a part of the $2,200,000 project. Its sub-structure, 95 by 143 feet, will be completed about May 1, when bricklaying for the superstructure will be started. The power house will contain four generating units, three of which will be of 2,000-kilowatt capacity each and the other of 1,500-kilowatt capacity.

Some delay is anticipated in installing the machinery due to uncertainty of delivery, but it is expected the work will begin sometime after May 1. The water wheels probably will be installed in June.

Kimberly-Clark Purchases Land

Anticipated expansion is seen in the purchase of 50 acres of land in the village of Kimberly, Wis., by the Kimberly-Clark Corporation. The property is east of the company's huge mill there, adjoining it. and fronts on the Fox River. S. F. Shattuck, vice-president, said the newly acquired property is for the company's own uses at some future time, but there are no immediate plans for its utilization.

Thilmany Enlarges Wood Storage Capacity

Enlarged wood storage has been arranged for by the Thilmany Pulp and Paper Company, Kaukauna, Wis. An 8-year lease on 2.3 acres has been obtained from the City of Kaukauna immediately east of the Sangamon Paper Company's mill. Expanded operations made the additional storage yard necessary.

Rhinelander Employees Prefer AFL Union

John E. Johnson, regional director of the National Labor Relations Board at Milwaukee, Wis., announced last week that more than 59% of the employees of the Rhinelander Paper Company, Rhinelander, Wis., had designated two AFL unions as their choice for collective bargaining agents. They are the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and the International Brotherhood of Paper Makers.

Johnson announced that he found less than one-sixth of the workers expressing preference for an independent union. He made no formal certification of the AFL unions as bargaining agents.

W. B. Beck Addresses Traffic Meeting

Traffic managers of various mills heard an address by W. B. Beck of the Office of Defense Transportation, and an officer of the Association of American Railways, at a meeting of the Fox River Valley Traffic Club at Kaukauna, Wis., April 8. His subject was "The Effect of Carloadings on the Defense Effort." About 100 members attended. A dinner was served at Hotel Kaukauna.

Lakeview Mill Employees To Celebrate

Employees of the Lakeview mill of Kimberly-Clark Corporation, Neenah, Wis., are planning a celebration for having attained the 100% goal for employee purchase of defense savings bonds through payroll deduction. It will be a "victory" party Wednesday evening, April 15, at Terrace Gardens, Appleton, Wis., in appreciation to the committees, union heads and department executives responsible for the success. Tom Temple's orchestra has been engaged for dancing. A home talent floor show also will be presented.

F. J. Sensenbrenner on Executive Committee

F. J. Sensenbrenner, president of Kimberly-Clark Corporation, Neenah, Wis., has been appointed a member of the executive committee in charge of a campaign to induce manufacturing plants in Wisconsin to salvage all unused critical materials. The record already made by his company in this effort led to his appointment. A statewide meeting will be held at Milwaukee April 24 to map out the program. George F. Kull of Madison, Wis., secretary of the Wisconsin Manufacturers Association, is chairman of the Bureau of Industrial Conservation of the War Production Board for this state.

W. E. Buchanan Named to WPB

William E. Buchanan, president of Appleton Wire Works, Appleton, Wis., has been named to a pulp and paper machinery advisory committee of the War Production Board.

Croxson-Shattuck Nuptials

Miss Ann Shattuck, daughter of Mr. and Mrs. S. F. Shattuck, Neenah, Wis., was married Friday evening, April 10, at the First Presbyterian Church, Neenah, Wis., to Lieutenant Arthur Croxson, Jr., of Norfolk, Va. The bridegroom is a graduate of the Massachusetts Institute of Technology, and was associated with Kimberly-Clark Corporation prior to the war. The bride's father is vice-president of Kimberly-Clark.

Power Shortage Threatens Paper Output

Power Controller For Canada States Impending Shortage of Hydro-Electric Power May Eventually Curtail Newsprint Production—List of Non-Essential Industries Prepared—Other Mill News.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 13, 1942—The usually friendly, cooperative and influential *Financial Post* of Toronto takes unreserved exception this week to the action of the United States Office of Price Administration in setting a limit or ceiling on the price which the importer may pay on foreign-made newsprint paper. The Post says editorially:

"Through setting a limit . . . the Office of Price Administration has effectively nullified an important feature of the Canadian price fixing policy. Moreover, the OPA has directly brought under its jurisdiction the Canadian newsprint industry or any other industry which is dependent in any way on the American market as an outlet for its products.

"When Canada established a price ceiling, it was specifically stated the policy did not extend to export trade. The omission of export prices was deliberate. Canada needed all foreign exchange it could secure, especially American dollars. Moreover, Canada was not in a position to control prices on imports.

Price Increased $3 Last December

"Last December Canadian newsprint manufacturers announced a price increase of $3 a ton over the base price on sales in the United States. After investigation of a sort, in which Canada's own Wartime Prices and Trade Board had to take a hand, the OPA has blocked the proposal by giving it a 60 days' hoist. Later the OPA may relent and allow the operators to advance a price which has remained unchanged for 51 months. But by freezing—for 60 days at least—the price in a market which depends upon Canada for 70% of its total supply, the OPA has raised an issue of paramount importance.

"In effect the OPA has extended price fixing power to Canada. If it can do that in the case of newsprint, then there is no reason why it cannot do likewise on a host of other products shipped from this country to the United States. This is unfriendly and unjustified interference in the affairs of a loyal neighbor."

The *Post* may be reflecting the reaction of Canadian newsprint manufacturers, but in this connection another item in the news recently may be of interest. Another Post, the *Saturday Evening Post*, like *Liberty* and *Collier's Weekly* recently announced a price increase from five to ten cents a copy. The Wartime Prices and Trade Board of Canada on March 25 made an order forbidding the increase to apply in Canada.

The *Saturday Evening Post* said this week that it had instructed its agents in Canada to accept no more subscriptions in the Dominion pending an appeal to the Wartime Prices and Trade Board. The magazine is still accepting subscriptions mailed directly to Philadelphia.

Much Depends on Rainfall

Whether or not Canada will be able to supply United States requirements for newsprint this summer and early fall will depend on the amount of precipitation in the localities in which paper mills are situated, according to William L. Batt, chairman of the United States-Canadian materials co-ordinating committee, in a pronouncement from Washington.

Construction of new Canadian aluminum and chemical plants, being built at the request of the U. S. government, is expected to divert electrical power from the production of newsprint. Lower water, cutting down on the power supply, would bring a sharp curtailment of supplies available to the U. S., according to the pronouncement. Ample water would require only a minor cut, it was said, but Mr. Batt warned that unless there is sufficient rainfall in Canada the new plants will take the bulk of the Dominion's available power.

Whole Court Will Consider Abitibi

Chief Justice R. S. Robertson, after hearing an application on behalf of the liquidator for leave to appeal to the judicial committee of the privy council, against a judgment upholding a judgment of the Ontario appellate court of Justice Middleton, ordering that the assets of Abitibi Power and Paper Company, Ltd., be sold to satisfy claims of the bondholders, decided to refer the matter to the whole court of appeal.

Hearing of the application by the whole court of appeal began yesterday.

War Needs May Curb Newsprint

WASHINGTON, April 10, 1942—Conservation of electric power may be necessary in Canada this Fall to feed war industries which are being established, William L. Batt, chairman of the United States-Canada Materials Coordinating Committee, said today. He added:

"Such a curtailment would affect United States supplies of newsprint, as this industry is one of Canada's largest users of electric power. The time or extent of this possible curtailment, however, is uncertain."

The ruling factor, he declared, would be the rainfall in Canada. Low water might bring drastic curtailment. Plenty of water would mean a minimum curtailment.

Aluminum and chemical plants projected for Canada, at the request of the United States, will take much of the available Canadian power, according to the WPB.

WPB figures show that stocks of newsprint in this country are at a high level. On Jan. 31 mill stocks were 154,094 tons. By February 28 these stocks had increased to 169,371 tons, representing about a 55-day supply.

Publishers' stocks on January 31 were 366,236 tons, and by February 28 had risen to 425,537 tons, also representing a 55-day supply.

Exception Taken to OPA Newsprint Price

Financial Post of Toronto States OPA Action Has Effectively Nullified Important Feature of Canadian Price Fixing Policy — Court of Appeal To Consider Application In Abitibi Case.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 13, 1942—According to a public statement by the Power Controller for Canada, a shortage of hydro-electric power which is now developing may result "eventually" in a curtailment of the output of newsprint mills, and in any case will cause diversion of power from commercial and non-essential use to war industries. The extent of power curtailment measures is not yet clear, and will depend largely on water conditions in the coming summer and fall. Much of Canada's electric power production, particularly in Quebec Province, comes from water storage. At present water storage conditions are good, but if conditions are not so favorable later this year, when a large expansion in need for power for war purposes is indicated, drastic curtailment measures may be necessary.

Canada's power shortage is due chiefly to the rapid increase in production of aluminum for war purposes. As much electric power is needed to produce one ton of aluminum as is required to make 18 tons of newsprint. Before the war the Aluminum Company of Canada was using more electricity than all of metropolitan Montreal, with its many industries and a one and a quarter million population. Since the war the output of aluminum has been multiplied at least five-fold and additional facilities are scheduled to be started.

List of Non-Essential Industries Prepared

The Government has drawn up a list of "non-essential" industries from which power may be withdrawn, and this list includes pulp and paper manufacture, Canada's biggest peacetime manufacturing industry. It is to be presumed that this would be one of the last industries to be curtailed since, as some 90 per cent of its products are exported, it is the chief contributor in sustaining Canada's balance of trade, and particularly in making available in Canada U. S. funds for the purchase of war materials. It is estimated that last year some $275,000,000 in foreign funds were thus made available, being the sum of differences between exports and imports of paper, wood pulp and pulpwood.

Newsprint Was 78% of Capacity in 1941

The production of Canadian newsprint mills last year averaged 78 per cent of capacity and it is probable no larger percentage will be required this year. However, in the later months of the year a market suddenly developed for substitutes for certain scarce Kraft products, notably a 9-point corrugating sheet and to a less extent a 40-pound wrapping sheet. In the second half of the year some 100,000 tons of these substitute products were manufactured in newsprint mills, mainly for export to the United States, and in recent months these products have been manufactured at the rate of 225,000 tons a year.

The newsprint industry considers "special" paper production as only temporary, and likely to stop with the end of the war. Thus, sales have been made on spot, rather than contract, basis and in event of curtailment of power available, the industry would be disposed to eliminate special paper production first. However, there is a possibility that the governments may step in, and government rulings made to govern just what type of production the various companies may turn out.

New Power Developments

While the prospective power shortage looms, Canada is busy developing new power sites. Last year the new power installations totalled 254,000 hp., and other undertakings under way should add 650,000 hp. to the total in the next 12 or 15 months. Of the new installations brought into production the most important was that of the St. Maurice Power Corporation on the upper St. Maurice river, a joint undertaking of the Brown Corporation, well-known manufacturers of pulp products, and the Shawinigan Water and Power Company. Four units with an installed capacity of 178,000 hp. were brought into operation, and the installation of two additional units of 44,500 hp. each is provided for. The first four units have been in operation since November, 1940. The plant operated at full capacity throughout the year 1941, and the President, James Wilson, says he doubts if there is another hydro-electric power development on the continent that in its first year of operation was able to sell every kilowatt-hour of its output under as advantageous terms. For the 12 months gross earnings of $941,211 were available for interest charges of $637,673, of which $104,340 was non-recurring.

Pulp Dealers Are Warned

The Wartime Prices and Trade Board, drawing attention to a board order last January 21 which ruled that pulpwood contracts in any province east of Alberta must be approved by Timber Administrator A. S. Nicholson, said in a statement, "It has been found that many contracts are not being sent in."

The board reiterated this section of the January 21 order:

"The terms of every agreement or commitment for the sale, supply or delivery of pulpwood of spruce, balsam, jack pine or poplar, either in the form of cordwood or logs, in any part of Canada east of the Province of Alberta, made on and after December 1, 1941, must be submitted to the timber administrator and approved by him before such contract or commitment shall be valid and binding upon the parties thereto."

Paper Box Orders Decline

CHICAGO, Ill., April 13, 1942—Orders booked by members of the Folding Paper Box Manufacturers of America declined during March to 79.6 per cent of the 1941 month and were also 21 per cent below February.

IMPORTANT FACTS ON GARGOYLE MICRO-CRYSTALLINE WAXES

Minute Particle Size of Gargoyle Micro-Crystalline Waxes is Ideal for 101 Uses

THE UNIQUE PROPERTIES of Gargoyle Micro-crystalline Waxes make them ideal for a hundred and one different uses in the paper industry.

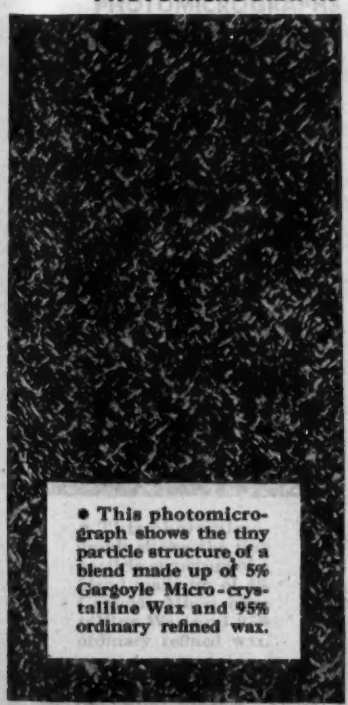
The microscopic crystal structure of these waxes is responsible in large part for their usefulness. When blended with ordinary refined waxes, they tend to suppress crystallization of waxes of normally larger crystalline structure. This is shown in the photomicrographs below.

In addition, Gargoyle Micro-crystalline Waxes are grease-, water-, and vapor-proof to a great degree. They are high-melting, ductile, adhesive.

These waxes are made in nine different grades, varying in color, hardness, and melting point.

For further details, call in your Socony-Vacuum representative. He will gladly assist you in applying these and other Process Products to the varying needs of your particular processes.

PHOTOMICROGRAPHS 100 TIMES ACTUAL SIZE



• This photomicrograph shows the tiny particle structure of a blend made up of 5% Gargoyle Micro-crystalline Wax and 95% ordinary refined wax.

• Here is another photomicrograph showing the relatively coarse crystalline structure of an ordinary refined wax. Compare with blend on particle size.

SOCONY-VACUUM OIL CO., INC.

Standard Oil of N.Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. • White Eagle Div. • Wadhams Div. Southeastern Div. (Baltimore) • Magnolia Petroleum Co. • General Petroleum Corp. of California.

GARGOYLE

Process Products

THESE PRODUCTS ARE AVAILABLE SUBJECT TO NATIONAL WARTIME REQUIREMENTS

I. P. INCOME FOR 1941 IS $218,149,111

(Continued from page 7)

tional Paper Company, together with any dividends paid by the new International Paper Company on such shares prior to the date of exchange. Such dividends are held in a special account and paid to the holder when the exchange is made.

Funded Debt

In June 1941 International Paper Company sold privately to four insurance companies at par $26,500,000 First Lien and General Mortgage Bonds, 3⅝% Series due 1956. Of the money raised about $7,235,000 was available for purchase and construction of additional properties and the balance was used to redeem the entire issue of Southern Kraft Corporation First Leasehold and General Mortgage Bonds, 4¼% Series due 1946, and to refund the International Paper Company Secured Notes held by banks which matured in series from 1941 to 1944.

Also in June 1941 International Paper Company retired its 3% Secured Promissory Notes (issued in December 1940 in connection with the acquisition of the Agar properties) out of the proceeds of a $3,000,000 unsecured four year term loan from banks at 1¼%.

At December 31, 1941 consolidated net funded debt of International Paper Company and subsidiaries amounted to $59,928,728, of which $2,230,408 of maturities and sinking funds due in 1942 were classified in the balance sheet as current liabilities. This compares with consolidated net funded debt of $57,571,280 at December 31, 1940 of which $5,498,751 was classified in the balance sheet as current liabilities.

New Properties

The Company and its subsidiaries spent $10,541,955 (net) in 1941 for construction, purchase and improvement of mill properties. The more important items are described below. Of the total, $4,847,511 was expended for construction of a new kraft mill and shipping container plant at Georgetown, S. C., and the balance was spent to increase productive capacity and reduce operating costs at existing plants.

The new Georgetown kraft mill was built in accordance with a Certificate of Necessity issued by the War Department, defining this plant as necessary in the interest of national defense and providing that its construction cost may be amortized over a five year period. This new mill, which will be complete with supporting pulp and power facilities, has the largest board machine in the world—capacity 600 tons daily. Construction was started in May, 1941, and operation began in February, 1942. It is expected that full production will be reached this summer.

The new shipping container plant at Georgetown, operating the present equipment at full capacity, can now convert 35,000 tons of container board yearly into finished shipping containers, and when completed will have a capacity of 70,000 tons.

At the Mobile kraft mill, the Company acquired in April 1941 a steam and steam electric plant which had previously supplied under contract the bulk of the mill's steam and electric power requirements. Its purchase has made possible considerable savings in the mill's power and steam costs.

During 1941 the Louisiana mill was converted so that it can make either bleached kraft or regular kraft, thus putting the kraft division in a better position to adapt itself promptly as demand shifts from one product to the other.

In addition to the expenditure for the construction and purchase of mill properties, $3,282,338 (net) was spent for acquisition of woodlands having stand of 1,905,000 cords of merchantable timber, excluding young growth.

During 1941 the business in toilet tissue, facial tissue and household paper towels was sold, together with the mills at Marinette, Wisconsin, Menominee, Michigan, and Glens Falls, New York.

Operations

During 1941 International Paper Company and its subsidiaries produced a total of 2,653,800 tons of paper, paperboard and pulp as compared with 2,275,001 tons in 1940, an increase of over 16%. The greater part of this increase was made possible by the construction expenditures of the Company in recent years.

The tonnage figures by grades for 1941 compare with 1940 as follows:

	1941	1940
UNITED STATES:		
Kraft board (unbleached)	835,487	673,019
Kraft wrapping and bag paper (unbleached)	199,618	191,753
Bleached kraft paper and board	129,439	109,420
Unbleached kraft specialty papers	103,883	64,945
Kraft pulp for sale	98,769	108,742
Total kraft board, paper and pulp	1,367,196	1,147,879
Groundwood specialty papers	198,449	187,076
Book and bond papers	171,234	117,393
Other pulp and paper grades	103,283	55,204
Total United States	1,840,162	1,507,552
CANADA:		
Newsprint	518,232	540,851
Rayon pulp	123,772	130,314
Other sulphite pulp	107,046	85,130
Corrugating board	49,231	—
Other grades	15,357	11,154
Total Canada	813,638	767,449
Total	2,653,800	2,275,001

The sulphite pulp production shown above includes tonnage shipped to the Company's northern United States mills for their own use amounting to 66,394 tons in 1941 and 53,961 tons in 1940.

The tonnage figures in the above tabulation do not include the Company's output of converted products, such as corrugated kraft shipping containers, paper bags, etc., manufactured for the most part from paper and board produced at the Company's own mills. The paper and board utilized for such products is, however, included in the tabulation. The following is a summary of the tonnage of such principal converted products manufactured by the Company and its subsidiaries:

	1941	1940
Corrugated shipping containers	158,039	8,669*
Grocery and miscellaneous bags, etc.	76,546	49,496
Heavy duty multi-wall bags	39,198	21,977
Insulating board (Canada)	19,617	18,968

* Container plants acquired December 1, 1940 so that above figure for 1940 represents only one month's production.

• Another advertisement telling how different American industries are speeding up wartime production •

We've got to keep giving him 13 EXTRA *to win the war*

Taylor Instruments are helping America's planes fly farther faster...

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Our planes use high-powered, 100-octane gasoline. Our enemies depend on gasoline which averages 87-octane. This 13-point lead gives an American pilot ⅓ more power from his fuel than his opponent gets. Our boys can climb out of anti-aircraft fire 40% faster... fly higher than enemy planes of the same weight... get off the ground one-fifth faster. Our 100-octane gas reduces the fuel load so our bombers can carry 20% to 30% more bomb load, or fly farther with heavier armament.

We've got to "fill 'er up" for ourselves and our allies with three times as much 100-octane aviation gasoline as we're producing now—increase production to 5 million gallons a day! We can. We're going to. We're doing it. Taylor Instruments are helping the speed-up.

From pilot plants through commercial plants, Taylor Instruments and Taylor engineers have been a vital help in producing high-octane gasoline. Now *every* gasoline refiner considers instruments essential. Taylor Instruments insure precision processing—automatically accurate and constant control of complicated chemical and physical reactions—complete, dependable uniformity—lower operating costs—more, *better* production.

With Taylor Instruments indicating, recording and controlling temperatures, pressures, liquid levels, rates of flow in all the perplexing, exacting refining operations, America's great oil industry *is* producing the high-grade gasoline and lubricating oil we need—and *can* produce more... *more*... MORE!

Uncle Sam and our allies are relying on Taylor Instruments to help produce:

100-OCTANE AVIATION GASOLINE
... in plants of the biggest producers of this type of fuel.

HIGH-GRADE LUBRICATING OIL
... in plants producing the quantities needed by tanks, cars, planes.

BETTER ASPHALT
... in plants furnishing this "quick take-off" surfacing for airfield runways and highways.

Without help from the oil industry, America couldn't win the war. Without the aid of automatic control instruments of the types made by Taylor, the oil industry couldn't hope to do its staggering job. Without Taylor Instruments, many another American industry could never have speeded up victory production. Are Taylor Instruments helping you do *your* war work? Have you called in Taylor engineers, to suggest ways of *getting more* out of your present equipment? Are you really tuned up to turn it out? Taylor Instruments will help you *now*—America needs you *now*. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. Makers of the famous "Not 1 but 5" Fulscope Controllers.

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★ ★ ★ HELP BEAT 'EM BY BUYING U. S. DEFENSE BONDS ★ ★ ★

Paper Association of New York Holds Fortieth Anniversary Dinner

The Paper Association of New York Tuesday evening, April 14, celebrated its fortieth anniversary by holding a formal dinner at the Hotel Waldorf-Astoria, New York. About 450 members and guests were in attendance.

President's Talk

David S. Landau, association president and vice-president of Alling & Cory Company, remarked in part as follows:

"It is my privilege and pleasure to bid you welcome to the fortieth anniversary dinner, commemorating the granting of a charter to the Paper Association of New York. This is a momentous event in the history of our association, not only because we have been able to survive these many years of change and competitive struggle in the largest, most aggressive and turbulent market in the United States, but because we now experience the tragic fact of living and being a part of the greatest world-wide military and economic crisis since Napoleon, the outcome of which, for good or evil, will greatly affect and influence the shape of things that now are, and of things to come.

"So, let us congratulate ourselves for still being able to carry on our business and to pay tribute to the wisdom and foresight of the seven merchants who, in 1902, brought this association into being. They were: Eben Miller, now the Miller & Wright Paper Company; Spencer Lathrop, Lathrop Paper Company; Gustav Lindenmeyr, now Henry Lindenmeyr & Sons; John E. Linde, J. E. Linde Paper Company; Edward J. Merriam, Meriram Paper Company; William D. May, now George W. Millar & Company; Thomas Barrett, Thomas Barrett & Son.

"All of these men have passed on to the Great Beyond, but their association spirit still carries on in their organizations with worthy successors in all branches of our endeavor.

"Though strongly tempted, on an occasion like this, to recite the glories of association achievement—past, present and future (don't shudder)—I shall refrain from doing so, having been cautioned by the committee to keep my remarks brief. Brevity being the soul of wit, I pause, *now*, to present the second item of our program."

Mr. Landau next introduced the following, who spoke briefly: R. C. Kettles, Jr., president of National Paper Trade Association, chairman of the Merchants' Advisory Committee of the Paper Industry under W.P.B., chairman of the board of Charles F. Hubbs Company and past president of the Paper Association of New York; John D. Zink, president of Writing Paper Manufacturers Association, vice-president and sales manager of Strathmore Paper Company; Horace A. Moses, president of Strathmore Paper Company; George Olmsted, Jr., vice-president of S. D. Warren Company; F. Henry Savage, vice-president and sales manager of International Paper Company; Harrison R. Baldwin, vice-president of Hammermill Paper Company; Charles A. Gordon, vice-president of Oxford Paper Company; Philip H. Glatfelter, president of P. H. Glatfelter Company; H. S. Daniels, vice-president of Union Bag & Paper Corporation; Arthur H. Chamberlain, executive secretary of National Paper Trade Association, and Irwin Slote, counsel and secretary of Paper Association of New York.

Past Presidents Take Bow

These former past president of the Paper Association of New York were also introduced: Rudolph A. Walton, Paul E. Vernon and Alfred E. Dubey.

Mr. Landau read telegrams of regret from the following trade leaders, who were unable to attend: Norman W. Wilson, vice-president of American Pulp and Paper Association, and president of Hammermill Paper Company; Major J. K. Javits, counsel for National Paper Trade Association; Clarence A. Clough, president of Book Paper Manufacturers Association, vice-president of New York & Pennsylvania Company, and Mayor of Englewood, N. J.

A souvenir program, distributed at the banquet, mentions that the association is "probably the first . . . organized in this country by paper merchants exclusively and maintained continuously by paper merchants ever since."

Committee, in charge of the anniversary arrangements, consisted of Fred P. Appleton, Eugene F. Brennan, J. Ogden Bulkley, Harry Doremus, Percy W. Eason, Samuel G. Garuner (chairman), Thomas Goulard, Gustave C. Indruk, David S. Landau, William E. Madden, Oswald F. Marquardt, Arthur W. Pohlman, Leon Pomerance, Paul K. Roth, Fred Schlosser and Carl H. Schorske. Secretary of the association is Irwin Slote.

WPB Interprets Wood Pulp Order

WASHINGTON, D. C., Apr. 13, 1942—An interpretation of General Preference Order M-93 was issued by the War Production Board today in order to facilitate administration. The order sets up, effective May 1, an allocation program for wood pulp.

The effect of the interpretation (No. 1) is to permit producers and consumers of pulp to receive, after May 1, without the approval of the Director of Industry Operations, pulp of domestic origin ordered and actually in transit prior to midnight April 30.

However, it is still necessary to report to the WPB and obtain approval before any deliveries can be accepted of pulp of foreign origin arriving at its first destination in the United States after noon EWT May 1, regardless of when orders were placed or when shipment began.

The following official interpretation is issued by the Director of Industry Operations with respect to Section 1096.1, General Preference Order M-93 issued March 12, as amended March 21, 1942:

The provisions of subsection (c) 1096.1 (General Preference Order M-93, as amended), requiring approval by the Director of Industry Operations for delivery of wood pulp on and after May 1, 1942, shall not apply to deliveries of wood pulp ordered and put in the hands of a carrier or otherwise in transit prior to midnight Eastern War Time, April 30, 1942, although such wood pulp may not reach the person who ordered such wood pulp until after that time.

DOWICIDE PRESERVES LAP AND PULP STOCK

Use Dowicide

- To prevent stain and decay on pulp wood.
- For control of slime conditions.
- To prolong felt life.
- For rot and termite-proofing.
- For mold-resistant paper products.
- To preserve proteins, starches, and other coating materials.
- To reduce maintenance costs.

FOR THE PRESERVATION of Lap Stock, DOWICIDE* F (Sodium Tetrachlorphenate)—sprayed on the lap sheet at the wet machine—is proving an effective control.

DOWICIDE F is water soluble but on contact with the pulp it is precipitated as the phenol form—water insoluble—and is therefore held by the pulp for greater protection against germination of spores and development of mold growth.

DOWICIDE G (Sodium Pentachlorphenate) will prevent mold growth in pulp stock and leaves no residual odor. It will also prevent pulp souring in the system over shut-down periods.

For more complete information on these and other uses for DOWICIDE in the paper industry write to Dow.

*Trade Mark Reg. U. S. Pat. Off

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THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York, Chicago, St. Louis, San Francisco, Seattle, Los Angeles, Houston

Paper Fits Itself Into War Program

How the pulp and paper industry can best fit its operations into the war program was the subject of a two-day conference of the newly appointed Pulp and Paper Industry Advisory Committee, which met under the auspices of the Pulp and Paper Branch of the War Production Board on April 9 and 10.

The Advisory Committee was recently appointed, superseding a series of committees which formerly made recommendations to the Pulp and Paper Branch.

Numerous representatives of divisions of the War Production Board presented factual information with respect to the impact of the war effort upon the industry, with particular reference to the scarcity of critical materials upon which the manufacture of pulp and paper must depend.

The availability of power was especially emphasized and the possibility that extensive shifts in power use will be required in order that the production of war materials may be increased. In view of the fact that many units in the pulp and paper industry are large producers of power, the possibility of interconnection with general power systems was discussed.

The effect of the growing stringency of critical materials was pointed out. It is plainly evident that the use of such materials by the industry must be reduced. This means that every possible means of substitution of the lesser for the more essential materials must be put into effect.

Survey of Pulpwood Being Made

A detailed survey of the pulpwood requirements, origin, inventories, and availability is being made. A large part of the fifteen or more million cords of pulpwood required in the United States is normally moved by truck. The curtailment in the production and distribution of trucks and especially the rationing of tires will seriously affect normal shipping methods. This survey is designed to indicate ways and means by which substitute methods may be developed.

The use of chlorine for bleaching of pulp in the manufacture of white papers, which is now under a limitation order, was discussed. A representative from the Chemicals Branch announced that withdrawal of larger quantities of chlorine from the industry would not be necessary for probably a 60-day period.

The principles of operation of the wood pulp allocation order, M-93, were discussed at some length and questions with respect to policy were raised.

Mandatory Standardization Order Impending

It was announced that the paper standardization program which heretofore has been upon a voluntary basis is undergoing review and correction and that as soon as possible a revised order will be issued. This order will be mandatory.

The transportation problems of the industry were reviewed with particular reference to the use of trucks for hauling pulpwood from the forest to the mills. It was suggested that the industry be urged to obtain advance shipments of operating materials and supplies in order that the pressure upon transportation at a later date may be lessened. It was reported that shipment of pulpwood upon the St. Lawrence River and the Great Lakes is receiving careful attention by American and Canadian agencies.

The need for clarification of the classification of the products of the industry for war and essential purposes was emphasized. It was brought out that producers are using various systems of reporting in order that they may establish the essentiality of their products. Importance of an adequate classification has increased because of the woodpulp allocation program, and the Pulp and Paper Branch is making an intensive study of this problem.

The policies of the Branch received careful consideration and several suggestions were considered by the committee from the point of view of being helpful in the relationships between the Branch and the industry. Particular emphasis was placed upon the need for dependable and accurate information with respect to the priority status of materials used in the industry and of Branch and War Production Board action affecting the operations of the industry.

The organization which has been built up in the War Production Board for compliance was reviewed in considerable detail and the procedure by which compliance action can be taken was spelled out.

Industry Pledged Fullest Cooperation

The second day's sessions were entirely devoted to discussions by committee members of the War Production Board's program from the standpoint of the industry. Industry representatives were unanimous in pledging 100% cooperation with the Pulp and Paper Branch and in assuring the Government representatives that they would, if necessary, recommend even more radical steps to conserve critical materials than are even suggested at present by the War Production Board.

There was a general recognition of the fact that the pulp and paper industry must give every assistance in securing voluntary and constructive cooperation with the Government's program. By such compliance, industry representatives believed that the Government's program would be accelerated in the most orderly manner.

Industry representatives brought out the need for some method of keeping the entire pulp and paper industry promptly and authoritatively informed on all developments in the program of the Pulp and Paper Branch. As one representative stated this attitude, there would be no lack of wholehearted cooperation from every part of the industry if individual mills could be given as clear a picture of the War Production Board's program as was given the committee members who were privileged to attend the sessions.

The most serious consideration was given to plans for the future operation of the industry. In the light of the rapidly growing scarcity of repair and maintenance materials and of the impact of transportation stringencies upon the industry, the necessity for shifting from a basis of volume production of all products to selective production of the products required for war and essential civilian uses was apparent to all. Many suggestions proposed by members of the committee were assigned to task groups among the committee for immediate study, to report at another meeting of the overall committee to be held Thursday and Friday, April 16 and 17.

WPB Issues $1,000 Machinery Limit Order

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Apr. 15, 1942—WPB has assumed control over the manufacture and distribution of many types of industrial machinery, including pulp and paper making and paper converting, in an effort to stimulate conversion of machine tools and skilled labor to the output of war materials.

Under the new order machinery covered includes; pulp and paper making-orders in excess of $1,000; paper converting-orders in excess of $200.00.

Under General Limitation Order L-83, effective immediately, manufacturers are prohibited from filling any orders for the production or delivery of certain types of new, second-hand or reconditioned machinery unless they bear WPB approval.

Approved orders include those for the Army and Navy, certain other government agencies, the governments of the United Nations, Lend-Lease operations, and any orders bearing an A-9 or higher preference rating issued at any time on an original PD-1, PD-1A, or P-19h certificate or on a PD-3 or PD-3A certificate countersigned before today.

No Prohibition on Less than $1000

Certain orders involving less than $200, and, in the case of pulp and paper making machinery, less than $1,000, are not restricted. Likewise, no prohibition is placed on deliveries of less than $1,000 worth of parts to repair or maintain a single piece of existing machinery or a single piece delivered hereafter, or on deliveries of parts worth more than $1,000 in cases where there has been an actual breakdown or suspension of operations because of damage or destruction of machinery.

Explaining the need for the order, L. S. Greenleaf, Jr., Chief of the Special Industrial Machinery Branch, said:

"The order has two primary purposes—one, the obvious one of conserving critical raw materials which might otherwise be used in the manufacture of machinery which in turn would be used for the manufacture of articles considered non-essential under the war economy;

"Second, to control and limit the manufacture of industrial machinery so that such machinery will henceforth be produced primarily for the direct use of the armed forces, the Lend-Lease countries, and for necessary civilian requirements. In this manner, we can promote the rapid conversion to war work of these machinery manufacturers.

"Industrial machinery manufacturers are in an ideal position to manufacture ordnance and other material for the armed forces. This order, by limiting the manufacture of their normal machinery products, will enable them to convert their machine tools and their skilled labor to the manufacture of such war material."

Requirements of Machinery Manufacturers

Manufacturers are not prohibited from delivering machinery to a distributor for the purpose of filling an approved order actually received or to replace machinery delivered by a distributor on an approved order. However, in order to fill orders now on their books which do not fall within the approved classification, manufacturers must obtain specific authority from the Director of Industry Operations after submitting a complete description of the machinery involved and the use for which it is intended.

The restrictions on deliveries apply on all types of orders—purchase, lease, rental, renewal of lease or rental, or otherwise.

Paper Industry Contributes $30,000

Thomas S. Lamont, president of the Greater New York Fund, on Monday of this week was the recipient of a contribution of $30,000 by the Paper Section of the Greater New York Fund drive, presented to him by Alexander Calder, Chairman of the Paper section and president of Union Bag and Paper Corporation. The results, which were 30% greater than last year's collection of the same period, were reported at a luncheon meeting of the Salesmen's Association of the Paper Industry, held at the Hotel Barclay, which marked the conclusion of the first week's effort by representatives of the paper business. The drive has another week to go.

At the speakers' table with Mr. Calder and Mr. Lamont were W. F. Howell, secretary of Robert Gair and Company, Inc.; Arthur Schroeder, president of Pejepscot Paper Company; Roy Ferguson, president of St. Regis Paper Company, all members of the Paper Section Executive Committee, W. N. Hurlbut, vice-president of International Paper Company, Samuel Dowman, vice-president of Gottesman & Co., Inc.; and Harry Hirshfield, radio humorist. N. T. Beadsley, Eastern vice-president of the Salesmen's Association of the Paper Industry, presided. Other members of the Executive Committee are: Hugh J. Chisholm, Oxford Paper Company; R. J. Cullen, International Paper Company, D. S. Gottesman, Gottesman & Co., Inc. and John Miller, West Virginia Pulp and Paper Company.

In announcing the week's results to Mr. Lamont, Mr. Calder stated that prospects were good for a total contribution to the Fund by the Paper Section of more than $40,000 if the present collection rate is continued. More than 20 companies in the paper business participated in the drive conducted by 22 team captains.

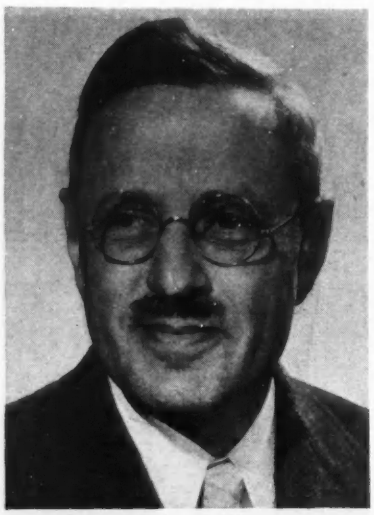
Brewer-Chilcote Paper Co. Moves

The Brewer-Chilcote Paper Company is taking on additional warehouse space and is moving its offices to 2212 Superior avenue, Cleveland, Ohio. This is the first move the company has made since its establishment in September, 1939. The additional quarters are larger and are better adapted for the warehousing of fine paper. At the present time the company is stocking papers made by Allied Paper Mills, Brightwater Paper Company, Brown Bridge Mills, Chemical Paper Company, Crocker McElwain Manufacturing Company, French Paper Company, Nekoosa-Edwards Paper Company, Peninsular Paper Company and Watervliet Paper Company. The sales staff consists of R. R. Brewer, who has had eighteen years paper experience; P. A. Chevallard with fifteen years; A. H. Stephan, 12 years; and J. R. Hawkins, four years.

Dr. Wise Appointed to the Institute Staff

Westbrook Steele, executive director of the Institute of Paper Chemistry, has just announced the appointment of Dr. Louis E. Wise as a research associate and instructor in wood chemistry. Dr. Wise is well known in the fields of wood chemistry, cellulose, pulp and paper for his research and review publications in these fields and particularly as co-author, with L. F. Hawley of the Forest Products Laboratory, of the Chemistry of Wood, published in 1926.

Dr. Wise received his Ph. D. degree from Columbia University. His broad experience in the field of chemistry is indicated by the following positions: Instructor in Biochemistry, Columbia University, 1912-1913; Instructor in General Chemistry, University of Missouri, 1913-1914; Biochemist, U. S. Department of Agriculture, 1914-1918; Chemist, Bureau of Aircraft Production, 1918-1919; Research Chemist, E. I. du Pont de Nemours & Co., 1919. Following World War I, he assumed the duties of Professor of Forest Chemistry at New York State College of Forestry at Syracuse University, where he remained until 1932; because of ill health at that time, he was forced to give up active work in the North, but was given the title of Professor Emeritus at the College and as Research Associate during the summers maintained his contacts with the work being carried on at Syracuse. From 1932 to 1941 he lived at Winter Park, Florida, where he continued his writing and abstracting; during this period he held the position of Professor of Organic Chemistry at Rollins College for the years 1933 to 1937. During the fall of 1941, he gave the course in Wood Chemistry at the Institute and now has accepted a full time appointment.



Dr. Louis E. Wise

Dr. Wise has some fifty-odd publications and patents to his credit, covering the fields of pure organic chemistry, essential and fatty oils, soil chemistry, biochemistry, wood chemistry, pulp and paper. He has been particularly interested in cellulose and hemicelluloses, with special reference to the isolation and properties of arabogalactan from larchwood. More recently he has taken out patents (with F. C. Peterson) on the pulping of wood by the action of organic amines. At present, he is engaged in a thorough revision of Hawley and Wise's Chemistry of Wood, which is being carried out with the assistance of some fourteen experts in the fields of wood, lignin, cellulose, etc.

Newsprint Securities Depressed

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 13, 1942—Most of the newsprint securities have been depressed lately and some have been selling on the Montreal Stock Exchange at their 1941-42 lows, despite current high earnings. One factor has been the disappointment over the 60-day hoist given in Washington to the $3 per ton price increase announced for the second quarter of this year. Another factor is the upward trend in pulpwood costs and the higher level of wage and other expenses. The Financial Times, of Montreal, in discussing the situation, says: "The uncertainty raised about prices is particularly serious for the industry, coming at a time when some companies are faced with the possibility of forced curtailment in operations later this year because of the power shortage. The market appears to be taking a very pessimistic view of the situation, as prices of some stocks, particularly those operating in Quebec and Ontario where the power shortage threat is the most serious, are at the lowest levels in years—in a sharp contrast with greatly improved financial position, and current earnings rate for most comapnies."

WPB Issues Order on Sanitary Product

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Apr. 15, 1942—Reduction of the amount of cotton gauze and wood cellulose in sanitary napkins through standardization of sizes was ordered by the War Production Board today to enable the industry to meet increased requirements.

The existing supply of napkins is sufficient for current demands, but because of the lack of facilities for expanding cotton gauze production, Lend-Lease and anticipated domestic requirements cannot be filled unless the amount of gauze in each napkin is reduced.

The order (L-95) is expected to save about 25,000,000 yards of cotton gauze, or enough for the manufacture of 17,000,000 dozen additional napkins. Since the industry will use the same amount of material as in former years, there will be no labor displacement.

The order also prohibits manufacturers from accumulating excessive inventories of raw or semi-processed materials, and requires a report by letter on production in 1940. Manufacturers are to make this report within thirty days.

Training Program Suggestions

The American Paper and Pulp Association, E. W. Tinker, executive secretary, 122 East 42nd street, New York, has just issued a bulletin on "A Suggested Training Program for Machine Operators in the Pulp and Paper Industry."

It discusses and suggests the manner of setting up a training program in any given mill or plant. It is prepared especially to meet the needs of training machine operators, but the methods are applicable to meet the requirements of almost any job training situation.

FROM THE ORIGINAL, PAINTED ESPECIALLY FOR NIAGARA ALKALI COMPANY BY FRED FREEMAN

WHEN TWO strong beams of light are focused on a course of progress each serves to strengthen the other and create a single beam of more concentrated power and efficiency. The resources of Niagara Alkali Company and Electro Bleaching Gas Company have thus been centered in one organization on one course to become a more powerful, efficient and useful organization to the industries they have each been serving separately. As one closely integrated whole, operating with combined manufacturing, research and personnel facilities, this company now serves the former customers of each under the name of NIAGARA ALKALI COMPANY.

EBG Niagara ALKALI COMPANY

60 EAST 42nd STREET, NEW YORK, N. Y.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
Liquid Chlorine

CONSTRUCTION NEWS

Middletown, Ohio—The Inland Container Corportion, Nelbar road, manufacturer of corrugated boxes and containers, has approved plans for new addition to plant, consisting of a one-story building, reported to cost close to $40,000, including equipment. General contract for erection has been awarded to B. D. Morgan & Company, 224 Bellemonte avenue, Middletown, and work is scheduled to be placed under way at once.

Aurora, Ill.—The United Wall Paper Factories, Inc., 330 West Fillmore street, Chicago, Ill., manufacturer of wall papers, has completed plans for new branch mill at Aurora, to be one-story, estimated to cost approximately $70,000, including equipment. Work will be placed under way at early date. Contract for general erection has been awarded to Carl W. Linder, 243 South River street, Aurora. Company also is carrying out expansion at main plant at Sixty-sixth and Major streets, Chicago, recently referred to in these columns, comprising a one-story building, for which general contract has been awarded to the A. A. Rose Construction Company, 327 South LaSalle street, Chicago. It is reported to cost close to $60,000, with equipment.

Framingham, Mass.—The Dennison Manufacturing Company, Howard street, manufacturer of paper specialties, tags, labels, etc., has plans under way for new addition to plant, consisting of a one-story structure, about 160 x 200 feet, to be used primarily for storage and distribution. It is reported to cost over $75,000, with equipment. Bids are scheduled to be asked soon on general erection contract. Isador Richmond, 248 Boylston street, Boston, Mass., is architect.

Manchester, Conn.—The Rogers Paper Manufacturing Company, Mill street, manufacturer of fiber board products, has approved plans for one-story addition, including alterations and improvements in present mill. It is proposed to begin work at once, carrying out by day labor. No estimate of cost has been announced.

Clifton, N. J.—The Eastern Corrugated Container Corporation, 86 34th street, Brooklyn, N. Y., manufacturer of corrugated boxes and containers, has awarded general contract to the C. A. Hunt Engineering Company, 485 Fort Lee road, Teaneck, N. J., for remodeling and improving three one-story industrial buildings on Clifton boulevard, Clifton, to be occupied for new plant unit, as recently noted in these columns. Also, an award to same company for construction of one-story addition, about 50 x 60 feet. Work is scheduled to be placed under way at once. Cost is reported at close to $75,000, including equipment. Saul Shaw & Company, 24 Walnut street, Newark, N. J., are structural engineers for project.

Buffalo, N. Y. —, The Certain-Teed Products Corporation, Military road, manufacturer of roofing products, wall board and kindred specialties, will begin work soon on removal of its local laboratory and engineering department to Chicago, Ill., where company is centralizing its different executive divisions. This follows the removal of general offices from New York, N. Y., to the same place, now under way. The local mill of the company, given over to the production of wall board, will be continued in Buffalo, as heretofore. Plant is now running on a full production schedule, giving employment to about 100 persons in different departments. Paul E. Fisher is manager of production operations.

Madison, Wis.—The United States Forest Products Laboratory, North Walnut street, will build a new one-story addition to the North Wing of local laboratory unit, to provide for increase in research facilities. Bids have been asked on general erection contract and award is scheduled to be made soon.

New York, N. Y.—The St. Regis Paper Company, 230 Park avenue, is operating on a maximum production basis at plants in different parts of the country given over to the manufacture of multi-wall paper bags, with output providing extensive substitution for burlap bags, previously used for various food specialties and agricultural products. Present production schedules will be continued for an indefinite period.

New Companies

Providence, R. I.—The Victor Paper Company, 89 Printery street, has filed notice of company organization to deal in paper products of various kinds. New company is headed by Victor Weinreich, 108 Doyle avenue.

New York, N. Y.—The Moore Waste Paper Company has been incorporated with capital of $20,000, to deal in waste paper products. New company is represented by John B. Benedetto, 220 Broadway, New York, attorney.

Brooklyn, N. Y.—The Allegheny Tissue Corporation has been chartered with capital of $20,000, to manufacture and deal in tissue paper products. New company is represented by Jacob Shapiro, 225 Broadway, New York, attorney.

New York, N. Y.—The E. V. Hadley Paper Company, Inc., has been organized with capital of 200 shares of stock, to deal in paper goods of various kinds. New company is represented by Albert Hirst, 51 Chambers street, New York, attorney.

New York, N. Y.—The Pan-American Fiber Company, Inc., has been incorporated with capital of 350 shares of stock, no par value, to deal in fiber products of various kinds. New Company is represented by Alfred Mann, 25 Broad street, New York, attorney.

New York, N. Y.—The Ramie Fiber Corporation of America, Inc., has been organized with capital of 100 shares of stock, no par value, to manufacture and deal in fiber products. New company is represented by Samuel F. Frank, 8 West Fortieth street, New York, attorney.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending April 11, 1942

STOCKS

	High	Low	Last
A. P. W.	....	....	....
Armstrong Cork Co.	24	22	22¼
Celotex Corp.	7⅛	6⅞	6⅞
Celotex Corp., pf.	68	68	68
Certain-Teed Products Corp.	2	2	2
Certain-Teed Products Corp., pf.	28½	26¾	27
Champion Paper & Fibre Co.	....	....	....
Champion Paper & Fibre Co., pf.	97¾	97	97¾
Congoleum Nairn Co.	14½	13¾	13¾
Container Corp. of America	13½	12½	12½
Continental-Diamond Fibre Co.	8	7⅜	7⅜
Crown-Zellerbach Co.	11⅛	10⅞	11
Crown-Zellerbach Co., pf.	81	79¾	81
Flintkote Co.	11⅞	11	11⅜
Robert Gair	1⅞	1¾	1¾
Robert Gair, pf.	10	9¾	10
International Paper Co.	12⅞	11⅝	11¾
International Paper Co., pf.	53	52	52½
Johns-Manville Corp.	60	56	56
Johns-Manville Corp., pf.	125	125	125
Kimberly Clark Corp.	27½	27¼	27½
MacAndrews & Forbes	18	17	17½
MacAndrews & Forbes, pf.	....	....	....
Masonite Corp.	25½	24¾	25½
Mead Corp.	7⅛	6⅞	7
Mead Corp., pf.	....	....	....
Paraffine Companies, Inc.	....	....	....
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	9	9	9
Rayonier, Inc., pf.	25	25	25
Ruberoid Co.	18¾	18	18
Scott Paper Co.	30⅛	28½	28½
Scott Paper Co., pf.	114¼	114¼	114¼
Sutherland Paper Co.	18¾	18⅝	18⅝
Union Bag & Paper Corp.	8½	8¼	8⅜
United Paperboard Co.	3¼	3⅛	3⅛
U. S. Gypsum Co.	47	45	45
U. S. Gypsum Co., pf.	167	164	164
West Virginia Pulp & Paper Co.	15½	14¾	14¾

BONDS

Abitibi Pulp & Paper Co. 5s '53	61½	60	60
Celotex Corp. 4½s '47	96	95½	96
Certain-Teed Products Corp. 5½s '48	87½	86¼	87
Champion Paper & Fibre Co. 4¾s '50	104¾	104¾	104¾
Champion Paper & Fibre Co.	....	....	....
International Paper Co. 6s '55	105	104⅝	105
International Paper Co. 5s '47	103¾	103½	103½
Mead Corp.	....	....	....
West Virginia Pulp & Paper Co. 3s '54	103½	103½	103½

New York Curb Exchange

High, Low and Last for Week Ending April 11, 1942

STOCKS

	High	Low	Last
American Box Board Co.	4⅞	4¾	4⅞
Brown Co., pf.	....	....	....
Great Northern Paper Co.	....	....	....
Hummel-Ross Fibre Corp.	4½	4½	4½
National Container Corp.	8⅜	8⅜	8⅜
St. Regis Paper Co.	1⅞	1⅝	1⅞
St. Regis Paper Co., pf.	110	109	109
Taggart Corp.	3	3	3

BONDS

American Writing Paper Co. 6s '61	80	80	80

St. Regis Income Increases

At the annual meeting of the stockholders of St. Regis Paper Company held today at the office of the company, 740 Water street, Watertown, N. Y., the following directors were elected for the ensuing year:

O. Anderson, J. O. Bulkley, F. L. Carlisle, T. H. Cosford, W. K. Dick, W. J. Dixon, R. K. Ferguson, E. R. Gay, H. S. Lewis, H. E. Machold, R. B. Maltby, C. B. Martin, J. A. Quinlan and W. H. Versfelt.

R. K. Ferguson, president of the company, presided at the meeting and indicated to the stockholders present that the volume of business of the company and subsidiaries for the first quarter of 1942 showed an increase of 30% over the first quarter of 1941 and that net income for the first three months of 1942 was running considerably above the 1941 rate based upon tax reserves at the corporate income and excess profits tax rates now prevailing. However, Mr. Ferguson stated that in all probability increased tax reserves would be required when the Revenue Act of 1942 is finally enacted.

A payment of $500,000.00 has been made on the company's bank loan during the first quarter of 1942 which leaves the term loan standing at a total of $1,900,000.00 at March 31, 1942.

Mr. Ferguson outlined the important part the company is playing in the War Program through enlisting its full resources in the manufacture of products essential to the armed forces or to important civilian use. Among the products the Company is manufacturing for the War Program are parts for guns, tanks, bomb sights, Diesel engines and cartridge machines.

In the Plastics Division, war production involves the following items: aeronautical flooring for bombers and flying boats, baffles and valve pushrod housings for air-cooled motors for planes and tanks, fuselage doors and fuselage skin sections for planes, stowage boxes for use in bomber and transport planes, navigator table drawers, propeller parts, and many other products which are in process of development to replace items previously made from critical materials.

The multiwall paper bag factories of the company are operating at a high rate of capacity to supply the increased demands for bags to take care of food products and agricultural commodities previously shipped in burlap bags which today are virtually eliminated by reason of the war in the Pacific. The Army, Navy and Marine Corps are demanding large quantities of multiwall paper bags for shipments of cement and other construction materials to bases both within and without the borders of the United States as well as to carry sugar, flour, salt, rice and other food products to the A.E.F. in Ireland, Australia, Iceland and wherever our armed forces may be sent.

The ground wood mills in Northern New York are engaged in manufacturing substantial tonnages of paper for the War Department, Navy Department, Government Printing Office, Treasury Procurement Office and other agencies responsible for obtaining war materials besides supplying paper for the important telephone book requirements, mimeograph papers, toweling sheets, etc.

The Pacific Coast pulp production is being used by manufacturers of paper for essential war uses and supplying substantial quantities of pulp under government lease-lend contracts.

Paper Company Profits at High Point

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 13, 1942—Discussing the outlook for various paper companies, Canadian Dow Jones says: "Abitibi Power and Paper Company, Ltd., operating earnings for first quarter this year will be approximately double those of corresponding months of 1941.

"Brown Company operations and profits for three months ended February 28 are believed to have

topped those of corresponding months of a year ago. Report for year ended November 30, 1941, it is expected, will show more than $1.25 a share earned on the common stock.

"International Paper Company earnings for the year 1941 were probably about the same as the $15,696,574 earned on the common stock in 1940. Sales were up sharply, but higher taxes offset the greater volume. Current operations are at a considerably higher rate than in the same months last year.

"Fixed prices, increasing costs and taxes and volume, which is not susceptible of further expansion, indicate the paper and pulp industries have reached their profits ceilings and may begin to ebb from 1941 levels. Although volume may decline on some lines, greater demand from others take up the slack, so production should remain at a high level throughout the year."

Puget Sound Votes Dividend

The Puget Sound Pulp and Timber Company has declared a dividend of 50 cents a share on the common stock of the Company, payable April 30, 1942, to stockholders of record April 16, 1942. This makes a total of $1 a share paid on the common stock this year, a quarterly dividend of 50 cents having been paid January 28.

Valve Bag Earns $1.78

The Valve Bag Company for 1941, reports a net income of $133,035, equal after preferred dividends, to $2.16 each on 41,000 common shares, against $122,091 or $1.78 a common share in 1940.

Graphic Arts to Meet April 24-25

W. A. Meeks, secretary-treasurer of the Eastern Seaboard Conference, 1023 Public Ledger building, Philadelphia, Pa., announces that all members of the graphic arts industry, whether association members or not, are invited to attend the Eastern Seaboard Conference to be held at Atlantic City, N. J., April 24 to 25 inclusive. Members of the War Production Board and other speakers of outstanding prominence are on the program.

Inlander-Steindler Add to Sales Force

William H. Cluever, formerly associated with the Cluever Paper Company, and Julius H. Lefkow, Conrad J. Wolf, Sr., and Conrad W. Wolf, Jr., who until recently have been identified with the Humboldt Paper Company of Chicago, have joined the sales organization of the Inlander-Steindler Paper Company.

Simplex Earnings Up

The Simplex Paper Corporation for 1941, reports a net income of $172,662, equal to 59 cents each on 290,000 common shares, against $146,578, or 50 cents a share the year before.

Southern Advance Nets $3.11

The Southern Advance Bag and Paper Company, Inc., for 1941, reports a net income of $705,488, equal to $3.11 each on 166,650 common shares, compared with $768,390 in 1940.

NEW FLEXIBILITY
BENDING ZONE
PERFORATED BLADES
for Dryers and Calenders
Taking something out of a doctor blade puts something in, i.e., taking metal out (perforating) the rear section takes out longitudinal stiffness caused by the normal curvature of working pressure. It gives the front or working section more flexibility for even-pressured contact with the roll. Lodding Floating Doctors are "prescription-engineered", for every position. Let us diagnose your conditions... Write either the Lodding Engineering Corp., Worcester, Mass., or the W. E. Greene Corp., Woolworth Bldg., New York.
LODDING
FLOATING
Rx FOR EVERY PURPOSE Doctors

WHY THIS MILL USES PYREX PIPING

If, like the West Virginia Pulp and Paper Company, you had to convey brines, sodium carbonate solution, and wet chlorine gases in a battery of electrolytic cells, what piping would you use to solve the severe corrosion problems involved?

The West Virginia Pulp and Paper Company chose PYREX Piping and used it for brine feed lines, cell over-flow lines, and lines carrying chlorine gas to the "PYREX" cooler for liquefaction.

In this particular installation the high corrosion resistance and other qualities of PYREX Piping offered the following five important advantages:

1. No leaky lines
2. No fumes
3. Minimum maintenance of Cl_2 and brine lines
4. Visual evidence that all cells are getting brine
5. Purer product

PYREX Piping may be the solution to one or more of *your* piping problems. Corning Engineers will gladly help you find out. Write to Industrial Division, Corning Glass Works, Corning, New York.

"PYREX" is a reg. trade-mark and indicates manufacture by Corning Glass Works

CORNING Glass Works Corning, New York — Pyrex Industrial Glass

Pacific TAPPI Meets

The Pacific Section of the Technical Association of the Pulp and Paper Industry met at the Port Angeles Golf and Country Club, Port Angeles, Wash., April 7, 1942. H. T. Fretz made the arrangements for the meeting which had an attendance of sixty-four.

The program was quite scientific in nature and the subjects discussed promise to lead to further study by the industry. F. W. Flynn, technical department, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, Wash., entered a paper in competition for the Shibley Award, entitled "Heat Transfer Characteristics of Indirect Heaters for Sulphite Digesters". The paper outlined a test for heaters under regular operation and the design of heater size.

M. L. Edwards, assistant plant engineer, pulp division, Weyerhaeuser Timber Company, Longview, Wash., presented an outstanding paper "A Study of Flat Screen Dynamics". It opens a phase of design research that may affect considerably the design of flat screens and the drive mechanism. The paper was illustrated with slides of photographic records of screen movement and simultaneous photographic records of the pressure-vacuum relationship in the flat screen box. This study involved the construction of an instrument to photograph the split second vibrations of the screen diaphragm and the even faster pressure wave action in the screen box.

The annual joint meeting of the Pacific Section TAPPI and Pacific Coast Superintendents Division will be held in Portland, Oregon, June 5th and 6th.

Those present included the following:—

O. C. Abbott, C. A. Anderson, Ray C. Austin, Lee C. Baltzelle, E. R. Barrett, C. V. Basom, H. L. Bibbins, Paul W. Blatter, W. E. Breitenbach, R. E. Bundy, John M. Carlson, M. R. Cashman, O. S. Cauvel, E. J. Cavanaugh, Henry Charnell, Percy W. Christensen, N. W. Coster, R. A. Dupuis, M. L. Edwards, G. V. Emerson, C. A. Enghouse, Francis W. Flynn, Harold T. Fretz, John M. Fulton, Alfred Graef, Lester T. Graham, George Gouker, John G. Hardy, N. Q. Hartnagel, Norman Heglund, Wm. S. Hodgson, Robert O. Holcomb, Meder Johnson, Glen D. King, R. A. Lawrence, Norman A. Lewthwaite, J. H. MacCarthy, G. M. Marvin, V. L. Mauerman, G. T. Mickel, F. A. Morey, C. T. Mulledy, E. E. Olfson, F. A. Olmsted, E. I. O'Neill, Frederic H. Peabody, R. T. Petrie, Archie P. Ratliff, Jr., H. H. Richmond, Walter A. Salmonson, Harlan Scott, Myron A. Scott, Brian Shera, D. L. Shirley, Fred R. Sievers, P. S. Simcoe, H. A. Sprague, John C. Steinberg, J. B. Symonds, J. V. Venables, L. E. Warwick, J. W. Wenger, Edward P. Wood and E. H. Woodruff.

Alfred Kent Joins the Navy

Manning, Maxwell & Moore, Inc., of Bridgeport, Conn., announce that their Dallas, Texas, representative, Alfred Kent is now Ensign Alfred Kent, having joined the U. S. Navy and has been on active duty at the Charleston, S. C., Navy Yard since March 16.

Their representative, Fred Crabbe, who formerly covered the Corpus Christi territory, has been transferred to Dallas and for the duration will cover Ensign Kent's former Dallas territory.

British Papermakers Broadcast

On Sunday evening at 8:25 the Papermakers Association of Great Britain and Ireland addressed the pulp and papermakers of America over the shortwave of the British Broadcasting Company in London. Llewellyn Thomas, secretary of the association, spoke as follows:

"This is the Bridgebuilders calling the papersmakers of America and sending personal greetings to R. G. Macdonald, secretary of the Technical Association of the Pulp and Paper Industry, known generally in Great Britain as R. G., who has done much to promote cooperation and good will between the industry in America and Great Britain."

"In 1939 the British Association made extensive plans to send a large delegation of papermakers to visit Canada and the United States and thereby promote better personal friendship. This trip was called off at the last minute because of the War but the trip will be made when the War is over and it is hoped that a large number of papermakers will make a pilgrimage to the British papermills."

"Just as the first papermills in America were built to provide paper for the advancement of education so were the first mills built in England. Under the War conditions paper is being made from straw, waste paper, salvage and other strange materials but with these good paper is being made, considering the deficiencies of such raw materials."

"This broadcast is being made to forge a link of friendship between American and British papermakers. American papermakers, engineers, machine operators, beatermen, screenmen, cooks, bleachermen, superintendents, technical men are urged to write letters to similar men in Great Britain."

Such letters will be given to individual paper and pulpmakers who will respond. Address your letters to "Bridgebuilders" c/o R. G. MacDonald, Technical Association of the Pulp and Paper Industry, 122 East 42nd street, New York, N. Y.

TAPPI Notes

John E. Parnell formerly of the North Carolina Pulp Company is now with the Chemical Warfare Service, Huntsville Arsenal, Huntsville, Ala.

Earl G. Thompson, Seattle manager of the Dow Chemical Company is now 1st Lieut. C. W. S., Huntsville, Ala.

C. W. Converse formerly of the Nekoosa-Edwards Paper Company is now Lieut. Co. G. 1st S. T. R., Fort Benning, Ga.

Lewis B. Miller, formerly of Keasbey & Mattison Company is now with W. H. & L. D. Betz, consulting engineers, specialists in Water Treatment, Philadelphia. Dr. Miller is Chairman of the TAPPI Water Committee.

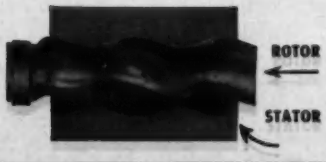
H. Ainsworth Harrison of Cooke & Nuttall, Ltd., is now chairman of the Technical Section of the Papermakers Association of Great Britain and Ireland.

The Empire State Section of TAPPI will meet at the Niagara Hotel, Niagara Falls, N. Y., on Saturday, April 25th. G. A. Petroe of the Mathieson Alkali Works will discuss the Pipe Line Chlorination Process.

Stop those "PUMPING-TROUBLE" delays with the R & M MOYNO

ONLY TWO PUMPING PARTS

Here's the patented secret of the efficient, trouble-free performance of the R & M Moyno Pump. A helical rotor revolves within a helical-threaded stator, providing pumping action like that of a piston moving through a cylinder of infinite length. Construction of the Moyno Pump is so simple that it can be dismantled and reassembled in 30 minutes.



Dozens of leading paper mills depend on the R & M Moyno for efficient, trouble-free pumping. Actual service records everywhere show cost savings and improved product quality.

With today's demands for all-out production of paper, you can't afford "pumping-trouble" delays in your mill.

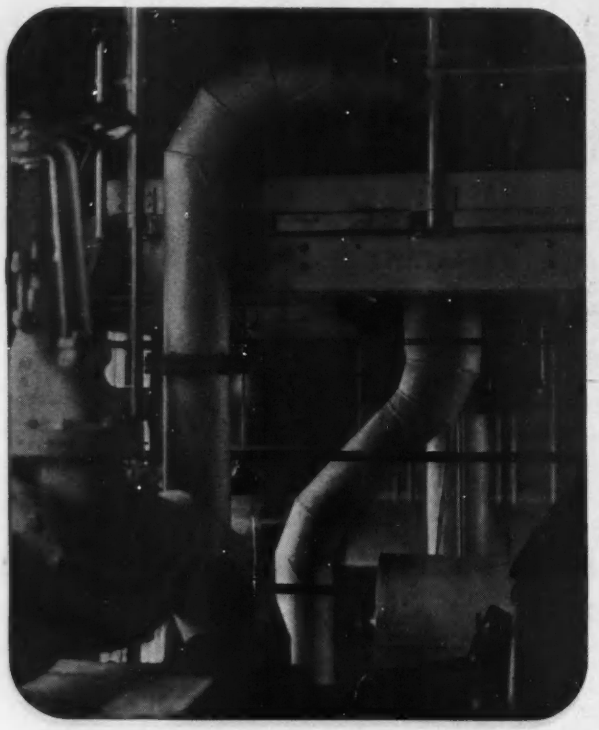
Here's the pump that can "take it"—the new R & M Moyno. It's radically different, yet simple in principle . . . handles size, coating or stock without foaming, turbulence or cavitation . . . helps speed your production and improve your product quality.

Keep your mill free from "pumping-trouble" delays, save time and costly maintenance with the R & M Moyno. Write today for Folder No. 1777.

ROBBINS & MYERS • Inc.

MOYNO PUMP DIVISION SPRINGFIELD, OHIO

HOISTS • CRANES • MOTORS • FANS • FOUNDED 1878



USE THIS 6" TO 36" PIPE

FOR WAR-TIME NEEDS

When the war effort demands new paper mill piping you can be sure of a good job by using ARMCO Spiral Welded Pipe. Specify it in any diameter from 6 to 36 inches for plant piping or water supply lines.

Every foot of "Spiral Welded" is prefabricated to fit your layout. Fewer flanges and fewer joints are the rule because fittings come welded to straight pipe runs. The pipe and fittings can be prime coated outside only or hot-dip galvanized after fabrication. For your water supply lines you can get ARMCO Pipe with a spun enamel lining, which assures sustained carrying capacity.

Use ARMCO Spiral Welded Pipe for maintenance work or new lines. By specifying economical lengths up to fifty feet you can reduce costs and speed the work. Write today for complete information. The American Rolling Mill Company, Pipe Sales Division, 1341 Curtis St., Middletown, Ohio.

ARMCO

SPIRAL WELDED PIPE

OPA Amends Paper Board Export Order

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Apr. 15, 1942—All export sales of paper board, except those sold by producers on f.a.s. (free along side) vessel basis, are excluded from Revised Price Schedule No. 32 as the result of Amendment No. 1 to the schedule (Paper board sold East of the Rocky Mountains) issued today by Leon Henderson, Price Administrator.

The amendment, which becomes effective April 9, 1942, also clarifies the definitions of "paper board," "person," and "producer."

Producers who export paper board f.a.s. vessel now may add to the maximum prices established for domestic sales the actual costs for the extra packing required for export shipment plus the actual cost of the extra freight occasioned by such packing. All other export sales, which previously were covered by the schedule, will be treated in individual agreements with the producers and exporters Mr. Henderson said.

As amended, the term "paper board" now refers to all kinds, grades, types, calipers, colors, and patterns of paperboard described in the schedule and leaves specialty paperboard for separate treatment as was intended by Amendment No. 6, to the original schedule on Feb. 3, 1942.

The definition of "person" has been expanded to include in its meaning the United States, the states, or any of their political sub-divisions or agencies.

To correct an unintended variance in the scope of the meaning of "producer," the term has now been broadened to include agents or representatives of producers.

N. E. Box Manufacturers Meet

Alfred Bliven, Norwich Paper Box Company, Norwich, Conn., was elected president of the New England Paper Box Manufacturers Association at the annual meeting of the organization, held at the Providence Biltmore Hotel, Providence, R. I., April 8. Alfred M. Bond, Consolidated Paper Box Company, Somerville, Mass., was elected vice-president and Thomas Casey Greene was re-elected secretary-treasurer.

Executive committee, Benjamin Nigrosh, Paris Paper Box Company, Inc., Boston; Dana C. Huntington, Dennison Manufacturing Company, Marlboro, Mass.; John H. Adams, Casco Paper Box Company, Portland, Me.; Oscar Carnevale, Hope Paper Box Company, Providence; Roger H. Mills, H. J. Mills, Inc., Bristol, Conn.; Fred H. Hawkins, Mason Box Company, Attleboro Falls, Mass., and Richard Piper, Baird & Bartlett, Boston, Mass.

With an attendance of 250, including the ladies, interesting and instructive discussions of vital importance at the present time, due to the war situation, closing with a banquet and entertainment, the affair was one of the best ever. President Howard S. Scholes was in the chair, extending a welcome to all. There was an interesting exhibit of paper boxes, the work of the Rhode Island School of Design, of which Dr. Royal B. Farnum is the head.

A Suppliers Meeting preceded the annual meeting, with Philip M. Liner, manager of the New England Division of National Adhesives (Division of National Starch Products Inc.) giving a Current Factual Report from Supply Dealers.

Paper Awards

WASHINGTON, D. C., April 15, 1942—R. P. Andrews Paper Company has been awarded the contract for furnishing the Government Printing Office with 20,400 pounds of 34½ x 65 salmon sulphite writing paper at 8 cents.

Stanford Paper Company will furnish 10,185 pounds of 50% rag, 36 x 54 litho finish map paper at 15.86 cents and the Paper Corporation of U. S. will furnish 360 sheets of 21 x 32 white sensitized paper at $32.82 per ream. Stanford Paper Company will furnish 20,720 pounds of 50% rag, 26 x 38 lotho finish map paper at 15.86 cents.

Bulkley Dunton & Co. will furnish 360,000 pounds of 25 x 38 offset book paper at 7.03 cents and the Mudge Paper Company will furnish 360,000 pounds of same at 7.03 cents. R. P. Andrews Paper Company will furnish 33,120 pounds of U. S. postal card bristol board at 6.67 cents and the Mudge Paper Company will furnish 30,150 pounds of 50% rag, 38 x 53 litho finish map paper at 16.9 cents. Old Dominion Paper Company will furnish 40,000 pounds of wood manila paper in 4¾ inch rolls at 4.984 cents and the same firm will also furnish 20,000 pounds of same in 5¾ inch rolls at 4.984 cents. Same firm will also furnish 100,000 pounds of same in 7½ inch same at 4.984 cents.

Mudge Paper Company will furnish 16,800 pounds of 75% rag, 17 x 22 white litho finish map paper at 17.86 cents and same firm will also furnish 129,420 pounds of 100% rag, 36 x 54 white litho finish map paper at 23.48 cents. Mudge Company will also furnish 50,022 pounds of 100% rag, white litho finish paper 35 x 64 at 23.48 cents. Same firm will also furnish 17,430 pounds of 100% rag, 17 x 22 white litho finish chart paper at 23.48 cents. Paper Corporation of U. S. will furnish 83,880 pounds of 100% rag, white litho finish chart paper at 24.4 cents and the same firm will also furnish 69,909 pounds of 100% rag, 30 x 50 white litho finish chart paper at 24.4 cents. R. P. Andrews Co. will furnish 7,000 sheets of cream white brush finish coated paper 20 x 25 at $11.50 per ream and Paper Corporation of U. S. will furnish 400,000 sheets of 22 x 34 white gummed paper at $12.849 per M sheets.

R. P. Andrews Paper Company will furnish 8,025 pounds of 32½ x 42 50% rag, blue ledger paper at 17.65 cents and the Stanford Paper Company will furnish 36,900 pounds of 50% rag, 44 x 56 white litho finish map paper at 15.5 cents. Walker Goulard Plehn Company will furnish 28,700 pounds of 25% rag, 32 x 42 cherry bond paper at 14.48 cents and the same firm will also furnish 35,000 pounds of 25% rag, 23 x 36 yellow bond paper at 14.48 cents and the Baxter Paper Company will furnish 19,500 pounds of 25% rag, 24 x 38 yellow bond paper at 14.3 cents.

Whiting Paper Company will furnish 45,113 pounds of 25% rag, 40 x 52½ bond paper at 15.25 cents and Walker Goulard Plehn Company will furnish 36,600 pounds of 50% rag, 28 x 34 white bond paper at 15.2 cents. R. P. Andrews Paper Company will furnish 40,000 pounds of No. 2 kraft wrapping paper in 36 inch rolls at 4.65 cents. Same firm will also furnish 17,400 pounds of same 30 x 40 at 4.9 cents. Walker Goulard Plehn Company will furnish 16,725 pounds of 50% rag, 18½ x 40½ yellow ledger paper at 15.75 cents. Same firm will also furnish 35,800 pounds of 25% rag, 23 x 36 yellow bond paper at 14.48 cents.

TRADE AUTOMATIC MARK

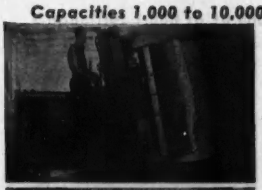
Manufacturers for Over Thirty Years

MODERN Electric Propelled INDUSTRIAL TRUCKS

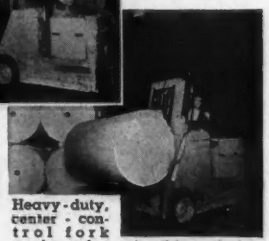
FOR ECONOMICAL MATERIALS HANDLING

- LOW AND HIGH LIFT TRUCKS
- FORK TRUCKS
- PULP AND BALE HANDLERS
- PAPER ROLL HANDLERS
- LOAD CARRIERS
- TRACTORS — CRANES

Capacities 1,000 to 10,000 Lbs.



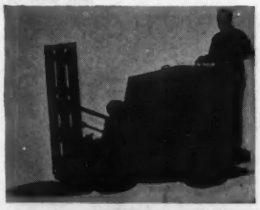
☆ Center-Control 3000 to 6000 lb. capacity motorized revolving paper roll handlers.



Heavy-duty, center-control fork trucks—telescopic tilting, tiering type for low-cost roll storage and transportation. Capacities 3000 to 6000 lbs.

☆ Center-Control 6000 to 7000 lb. capacity heavy-duty, motorized revolving paper roll handlers.

☆ Box-car bale and roll unloader for single tier storage. 1500 to 2500 lbs.



☆ Box-cars can be loaded and unloaded in record time — with motorized roll upender. Capacities up to 3000 lbs.

☆ Chisel type pulp handlers for box-car loading, unloading and stacking.

☆ 6000 lb. capacity low-lift and high-lift trucks for skid transportation of small rolls and flat stock.

WHEN YOU BUY TRUCKS . . . Buy "AUTOMATIC"

AUTOMATIC TRANSPORTATION CO.

65 W. 87th St. Div. of the Yale & Towne Mfg. Co. CHICAGO, ILL.

UNITED PIGMENTS

Pure Titanium Dioxide

UNITANE-O

A brilliantly WHITE, pure, fine titanium dioxide possessing excellent . . .

- **OPACITY**
- **BRIGHTNESS**
- **DISPERSION**

Suitable for ALL types of paper ranging from thin printing papers and waxing tissues to coated book and magazine stocks.

UNITANE O—110 was especially developed for paper pigmentation. Its excellent dispersion in water promotes good retention and excellent sheet formation. As a component of the beater furnish, it produces whiter sheets of great brilliance, and superior printing qualities.

SAMPLES of UNITANE O-110 will be sent promptly upon request.

UNITED

UNITED COLOR AND PIGMENT CO.

DIVISION OF INTERCHEMICAL CORPORATION

NEWARK, NEW JERSEY

SALES OFFICES IN PRINCIPAL CITIES

Delaware Valley TAPPI Discusses Color

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry met at the Engineers Club, Philadelphia, Pa., on Friday, April 10, 1942. Edward J. Albert of the Thwing-Albert Instrument Company presided as chairman.

Charles Schubert, chairman of the nominating committee presented the following slate to be voted on by letter ballot. Chairman J. D. Davis, Dill & Collins, Inc., Philadelphia, Pa.; Vice Chairman—F. J. McAndrews, Glassine Paper Company, Manayunk, Pa.; Secretary—E. N. Poor, W. C. Hamilton & Sons, Miquon, Pa.; Treasurer—L. B. Miller, W. H. & L. D. Betz Company, Philadelphia, Pa.; Executive Committee—C. M. Connor, Glassine Paper Company, Conshohocken, Pa., and E. J. Albert, Thwing-Albert Instrument Company, Germantown, Pa.

E. R. Laughlin of E. I. du Pont de Nemours was the principal speaker and gave a talk on the theoretical and practical aspects of color and brightness. In this talk Dr. Laughlin reviewed the psychological and physical aspects of color. His talk was beautifully illustrated with color effects and he showed how papermakers are meeting the present problems of using pulp of low brightness. The papermakers aspect of brightness was clearly explained and some of its complications were pointed out. Papermaker's brightness is measured at a wave length of 458 millimicrons. By the use of greater color depth and hue it is possible to obtain pleasing optical effects on the papers made from the duller pulps now obtainable.

Those present included: Edward J. Albert, D. E. Bates, R. M. Bates, R. W. Beales, S. W. Blanchard, Alan R. Boyd, Frederic E. Brinnick, S. G. Briscoe, R. T. Bingham, C. M. Connor, J. D. Davis, Tom Falknor, George A. Farrah, A. N. Glauner, Jesse F. Good, Lois Hans, A. M. Hariteg, Ray E. Harter, H. F. Hoffmann, Harry Hulmes, J. Jacobsen, C. E. Kinney, George J. Lane, E. R. Laughlin, R. G. Macdonald, G. B. Martin, M. C. Maxwell, Alex. McInnes, L. B. Miller, W. B. Morehouse, E. N. Poor, W. P. Quinn, Glen T. Renegar, C. W. Rivise, J. R. Shallcross, W. K. Echlotterbeck, John B. Shields, J. C. Schmidt, Chas. A. Shubert, Henry C. Speel, R. Tutt, Jr., R. H. Underdown, G. C. Walton, Archie E. Waugh and A. M. Webber.

Hubbs & Howe Elect Officers

The annual stockholders and directors meetings of Hubbs & Howe Company were held in Buffalo, on Tuesday, February 24, 1942. The company has offices and warehouses in Buffalo and Cleveland and is affiliated with other Hubbs Organizations in the United States and Canada.

The executive personnel and board of directors were re-arranged, due to the death of the former president, W. H. Howe, R. C. Kettles, Jr. was elected president, F. W. Howe, executive vice president and treasurer, M. S. Wilts, secretary and assistant treasurer, M. D. Gascon, vice president, J. H. Hoover, vice president, H. J. Ihsen, vice president. Mr. Dilts is manager at Buffalo and Mr. Gascon is in charge at Cleveland.

The board of directors consists of Messrs. Kettles, Howe, Gascon, Dilts and H. J. Severance.

Cuba Lowers Duty

Colored or uncolored paper, with or without printing or simply stamped designs, in rolls, folds or sheets of a type used generally for industrial lining and wrapping is now to be subject to lower rates of import duty than previously when imported into Cuba, according to an order issued by the Cuban Director General of Customs, reports to the Department of Commerce state.

Under the provisions of the order such paper will be classified either under tariff item 156-A or 156-E according to the nature of the paper, at a rate when imported from the United States, of $2.40 per 100 kilograms or 7c per kilogram respectively.

Heretofore papers such as described above have been subject to import duties when imported from the United States, of from 21c to $1.05 per kilogram.

New Ruling on Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 8, 1942 —Mechanical wood pulp and cellulose pulp in sheets, when their use for the manufacture of paper in Mexico is proved need no longer be perforated in order to receive the benefits of the lower import duties according to a recent Mexican decree the Department of Commerce reports.

Previously the pulp used for this purpose was required to be perforated at distances not greater than 15 centimeters.

Mechanical wood pulp in sheets for the manufacture of paper is duitable in Mexico at the rate of 0.80 peso per 100 gross kilograms and cellulose pulp in sheets for the same purpose is duitable at 1.00 peso per 100 gross kilograms.

Paper Index Rises

Index of the value of paper manufacturers inventories for February was 136.8 compared with 134.4 in January and 119.9 in February of last year taking the average month of 1939 at 100, according to the monthly industry survey of the Department of Commerce.

The Department's figures show also that the February index of the value of paper manufacturers shipments was 196 compared with 195 in January and 148 in February of last year taking the figure for January 1939 at 100.

Bowie County, in the northeast corner of Texas supplies sawlogs, and pulpwood for papermaking. This unusual snow scene was taken by Frank Heywood, Jr., Forester for the Southern Pulpwood Conservation Association.

Texas now has four paper mills. The narrowest machine trims 57 inches, the widest 222 inches.

Wherever your mill, whatever your machine widths, they can be satisfactorily clothed with *Draper Felts.*

Draper Felts Favor Efficiency

DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856 CANTON, MASS.

OUR REPRESENTATIVES *to serve you*

L. H. BREYFOGLE, Kalamazoo, Mich.
C. K. BEECHER, Delaware, Ohio
W. L. CAMPBELL, Savannah, Ga.
O. J. LELOFF, Vancouver, Wash.
RALPH E. BRIGGS, Canton, Mass.

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

Henry J. Berger

EDITOR

Vol. 114 April 16, 1942 No. 16

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

THREAT OF INFLATION

An excellent presentment of the national economic situation is outlined by the Government in an article released last week. In view of recent articles which have appeared in the daily press dealing with the possibilities of the establishment by the Government of price ceilings on consumer goods, states the article from the Division of Information, the following background material suggests some of the considerations which may guide the officials in shaping a policy of inflation control. It should be clearly understood that this article should not in any sense be interpreted as announcing a completed official policy.

The efforts of the Government to determine an effective economic policy are explained, in part, as follows: "While army and navy chiefs are engaged in planning the grand strategy for complete victory over the Axis and Donald Nelson and his aides are working to achieve the all-out production necessary for our armed forces to meet their military objectives, others in the Government are seeking a policy which will win the battle on the economic home front. This battle at home, the struggle to maintain a sound economy during and after the war, is by no means the least important of our objectives . . . In World War No. 1, we were victorious on the field of battle, but when the last gun of our enemy was silenced, an equally powerful foe at home—inflation—was dictating its own terms of peace. When the final reckoning was made in the collapse of 1920, the business man found that he was compelled to write down his inventories to the extent of some $11 billions, that the liabilities of bankrupt firms had reached a depth almost double the previous record, and that inflationary prices had increased the cost of the war by $10 billions which had to be paid off by added taxes."

In commenting on the rapidly rising national income, the article goes on to say that, "This year, national income (dollars paid out) will probably total 117 billions. Savings and taxes will take 31 billions out of the amount, leaving a balance of 86 billion dollars to buy consumer goods and services. However, the supply of consumer goods and services will amount to only about 65 billion dollars in terms of 1941 prices. There will be $4 in money competing for every $3 worth of consumer goods and services in 1942. (The above estimate of national income, savings and taxes, and value of consumer goods and services is subject to revision, but the general relationship probably will not change much.) This era of a seller's market may seem pleasant enough, at first, to the business man. But later, the manufacturer, the wholesaler and the retailer discover that inflation can deal just as harshly with business as with the ultimate consumer . . .That is why, following the last war, wholesale prices which had risen to a peak in 1920 that was nearly two and one-half times the level of 1915, plunged almost all the way back to the 1915 levels. That is why the Business Failure columns took up so much space in the newspapers. While the consumer may be the first to feel the hardships of inflation, business, too, receives its fatal wounds."

Recounting some of the measures which have been taken to check inflation, the article says in part that, "To be sure, certain factors have contributed to keep prices down. First, retailers themselves have exercised considerable restraint in marking up their goods and, in many instances, actually have foregone profits they might have had. Then, too, the 1942 tax program-certain to be even more drastic in 1943, is skimming off some of the cream of excess income to dilute the buying power for consumer goods. Finally, the Office of Price Administration, has taken a number of steps which have slowed down the upward trend. OPA has, since April 11, 1941, issued some 112 permanent price regulations and, since February 22, 1942, has issued 18 temporary price regulations permitted under the price law. In addition, a number of so-called 'freeze' letters were sent out prior to the law becoming effective, and there have been many other less formal actions taken. All of these actions have been directed either at specific commodities or, in a few cases, at small groups of commodities. These actions have in most cases been applied on raw materials, semi-manufactured goods, or on manufactured goods at the wholesale level. At the present time there are a very few regulations establishing maximum prices at the retail level (the order issued on April 4, freezing retail prices for 44 common electrical household appliances, effective April 7 at the March 30 levels, is by far the most drastic attempt at retail regulation to date.) However, close to 50% of goods sold at wholesale is now under some sort of formal or informal control."

Commenting on increasing prices the article states

that, "Despite the large number of regulations applying to goods at the raw material or wholesale levels, there has been a steady rise in prices, and this has become accentuated in the past few months. Following is a rough compilation of price movements since September, 1939, at the start of the war: 28 basic commodities, September, 1939, 100; December, 1940, 120; January, 1942, 166. All wholesale prices, September, 1939, 100; December, 1940, 107; January, 1942, 131. Cost of living, September, 1939, 100; December, 1940, 103; January, 1942, 113.

Concluding the article states that, "It is evident the rise in prices was quite moderate through 1940, but that prices moved up rapidly in 1941 and thus far in 1942. The situation clearly calls for some action if prices are to be kept from not only continuing but accelerating this upward movement. Whether the answer is to be found in a more or less general freezing of wholesale and retail prices for consumer goods, a system of licensing wholesalers and retailers, a general rationing plan or some other method is something which OPA must determine. It is plain, however, that unless something is done, America is threatened with inflation of the most serious nature."

Carton and Box Men to Meet April 24

WASHINGTON, D. C., April 15, 1942—The joint industry meeting of folding carton and set-up box manufacturers with Office of Price Administration officials, originally scheduled for Friday, April 10, has been postponed to April 24, Leon Henderson, Administrator, announced today.

Robert M. Macy, price executive of the Paper and Paper Products Section, will preside at the meeting, which will be held at 10:30 A.M. at the Hotel Roosevelt, New York. At that time new individual agreements on maximum prices will be submitted to the manufacturers for their signatures.

The new agreements will replace agreements under which a majority of the manufacturers have given their pledges not to sell at prices above the levels of the period between October 1 and October 15, 1941. These agreements will expire April 15, 1942, but OPA has asked the manufacturers to abide by their terms until the new agreements are signed.

Dickinson Representative Visits U. S. A.

Charles Delderfield, export manager of John Dickinson & Co., Ltd., of London, England, has just arrived in this country on a short visit to acquaint himself with the conditions in the paper industry, particularly as regards exports.

The firm of John Dickinson & Co., Ltd., is one of the oldest and largest distributors of paper and allied products in the world, with the main office in London and branch offices in all British colonies and possessions. Since the United States has entered the war the difficulties of securing enough paper for their customers all over the world have multiplied and the chief purpose of Mr. Delderfield's visit is to study the problem at first-hand. He is making his headquarters at the Canadian Club, New York.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1942		Corresponding Weeks, 1941	
February 28	104.2	March 1	90.5
March 7	102.3	March 8	91.0
March 14	101.3	March 15	91.8
March 21	103.0	March 22	91.7
March 28	103.0	March 29	94.5
April 4 (Prelim.)	*101.3*	April 5	93.5

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1941	85.6	89.7	92.2	96.0	98.7	99.3	94.2
1942	103.8	103.4	*102.3*	...	...	...	...

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1941	101.0	99.7	105.2	106.2	100.4	97.4
1942	...	...	...	...	...	...

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941	1942
Year to Date.	67.7	76.2	89.3	67.2	79.7	85.7	88.9	*103.1*
Year Average.	69.9	80.4	79.8	71.5	83.4	85.6	97.4	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	71	69	64	67	63	72	74	84	81	71	70
1940	71	70	69	70	76	79	72	74	72	79	77	71	73
1941	75	81	82	83	84	88	86	94	94	99	98	93	88
1942	102	101	*101*	..	..	..	..	..	..	..	..	..	..

Week ending Feb. 28, 1942—100
Week ending Mar. 7, 1942—101
Week ending Mar. 14, 1942—100
Week ending Mar. 21, 1942—101
Week ending Mar. 28, 1942—101
Week ending Apr. 4, 1942—*100*

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

Johns-Manville Has Big War Rally

An all-out-for-war-production rally of management and employees of Johns-Manville was held recently at the company's second largest plant at Waukegan, Ill. The rally was part of a company-wide production drive taking place in each of Johns-Manville's 17 factories and mines throughout the United States.

The drive is in line with the recent appeal to industry by Donald M. Nelson, War Production Board chairman, for increased war production. Central committees composed of management and employee representatives have been appointed at each plant and mine to lead J-M's company-wide war production drive.

The principal speaker at the Waukegan rally was Lewis H. Brown, president of Johns-Manville Corporation. He said that in 1941 Johns-Manville had broken the company's all-time records for production and added:

"All this must be increased again and again if our fighting men are to receive the material they will need to assure a speedy victory. From now on new quotas of production must be set up. These quotas must not only be met. They must be beaten.

"We're 100% out to win this war. I have said it before and I repeat it. If it takes all of our profits, all our personal incomes, privileges and comforts, all our waking moments of effort and thought, and even our lives, there is no other choice. We simply have to win. Johns-Manville is a great organization that can meet this challenge. We will accept every duty and sacrifice that must be made. We can and will adjust ourselves and our operations to every new condition we may be called on to face—except one. We will not learn to say 'Heil Hitler' because of a defeat by the Axis powers."

THE ADVANTAGES OF *Wetting Agents* IN THE PROCESSING OF PAPER AND PAPER PRODUCTS

NATURE OF AEROSOL* WETTING AGENTS. Wetting agents taken as a group constitute a valuable new tool for the use of the Paper Maker.

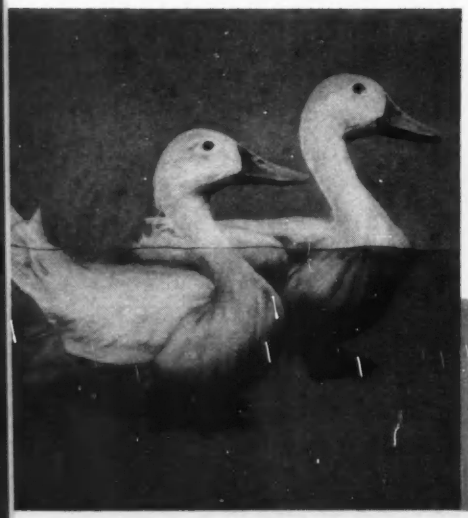
As a matter of fact, an AEROSOL Wetting Agent molecule resembles a paper machine in that it has a "wet end" and a "dry end." The wet end is compatible with water and the dry end is attracted by substances that are repelled by water. Keeping this fact in mind helps to picture the action of AEROSOL Wetting Agents, and to understand why they affect only the *surface* of an ordinarily water repellent body without necessarily influencing the mass of the body below the surface. Because of these properties, AEROSOL Wetting Agents have a great variety of uses, some of them quite surprising, and new applications are constantly being discovered.

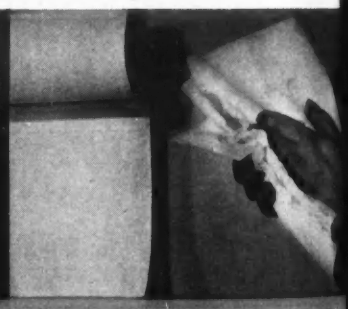
APPLICATIONS OF AEROSOL WETTING AGENTS

1. Cleaning felts.
2. Conditioning new felts.
3. Applying sealing tape to shipping cartons.
4. Washing of pulp (removing certain color bodies).
5. Preserving absorbency of towel stock.
6. Surface dyeing of paper.
7. Impregnation of paper with inorganic salts.
8. Increasing absorbency of certain types of papers.

In order to secure best possible results under the great diversity of conditions that wetting agents encounter, a number of different types have been developed. The presence of other chemicals may prohibit the use of one or another of these products and, therefore, the choice of type is important.

FULL INFORMATION IS AVAILABLE. An interesting booklet has been prepared describing the various types of AEROSOL Wetting Agents, their properties and applications. This is available to anyone interested, for the asking. It may be, however, that you have a problem which, while falling in this general field, is not covered by the booklet. If so, talk it over with your Cyanamid representative, or write to your Cyanamid District Office. There is no obligation.





(Left) AEROSOL makes water *wetter* by reducing surface tension. Here is a graphic illustration of this effect of AEROSOL. Eliminate by the action of AEROSOL the film with which a duck's feathers are coated, and the water will penetrate and literally waterlog the duck so that it will sink. The duck at the left above has been so treated with AEROSOL, while the duck at right above is untreated. This is an actual photograph.

(Above) Paper products treated with AEROSOL Wetting Agents are capable of absorbing water more rapidly. This is particularly advantageous when applied to the manufacture of the types of products shown here. Beer mats and paper towels have increased utility value and efficiency, a characteristic essential to their maximum serviceability.

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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Turpentine Test for Grease Resistance of Paper*

TAPPI Tentative Standard T 454 m-42

Apparatus

1. A tube of any rigid material, 1 inch inside diameter and not less than 1 inch in height, the ends of which have been smoothed.
2. A pipette or medicine dropper, calibrated to deliver 1.1 cc.
3. Round-grained sand, screened to pass a no. 20 and be retained on a no. 30 sieve. Ottawa cement-testing sand[1] is recommended.
4. Sheets of supercalendered book paper of convenient size; 25 x 38-500, 80 pounds.

Reagent

Colored, water-free turpentine, prepared as follows: To 100 cc. of pure gum spirits turpentine, C. P. grade, sp. gr. 0.860 to 0.875 at 60 deg. F.,[2] add 5 grams of anhydrous calcium chloride and 1.0 gram of du Pont Oil-Soluble Red dye.[3] Stopper the container, shake well, and let stand for at least 10 hours, shaking occasionally. Then filter through a dry filter paper at a temperature of approximately 70 deg. F., and store in an airtight bottle.

Test Specimens

Cut representative specimens 4 inches square from the sample under test.

Procedure

The paper to be tested shall be sampled as specified in TAPPI Standard T 400 m. The test specimens shall be conditioned according to TAPPI Standard T 402 m and the tests made on the conditioned specimens in the standard atmosphere prescribed in the above method. Not less than 30 specimens shall be tested.

Make an equal number of tests on each side of the sample. If possible, note which is the felt side and which is the wire side.

Place each specimen on a sheet of the book paper which rests on a smooth plane surface. Place the end of the tube on the specimen and put 5 grams of sand in the tube. Since the purpose of the tube is solely to assure a uniform area of the sand pile, remove it immediately after the addition of the sand. Using the pipette or medicine dropper, add 1.1 cc. of the colored turpentine to the sand, and note the time.

Move the test specimens to different positions on the book paper and examine the uncovered area of it for staining, every 30 seconds for the first two minutes, every minute for the next eight minutes, and every three minutes thereafter. As soon as the first red stain appears on the book paper, note the time. The time elapsed, in seconds, between the application of the turpentine and the appearance of the first definitely red stain shall be recorded as the transudation time.

Note: In the absence of knowledge of the probable time of transudation, it is advisable to make a few preliminary tests.

Results shall be reported as turpentine transudation in terms of seconds. The report shall include the number of specimens tested and the maximum, minimum, and average turpentine transudation. If it is possible to identify the two sides of the paper, results shall be reported separately for specimens tested with the felt side up and with the wire side up. All tests over 1800 seconds shall be reported as 1800+ seconds and if individual results of 1800+ are included in any average, such average shall be followed by a plus sign. The average shall be reported on the basis of all tests made. It is recommended that the following form be used in reporting results when possible:

	Felt Side Up	Wire Side Up
Turpentine transudation, seconds		
Maximum	1800+	1750
Minimum	1500	1400
Average of 15 tests	1750+	1600
Total average	1675+	

This method gives an accelerated comparison of the relative rates at which ordinary oils or greases, such as commonly found in foodstuffs, may be expected to penetrate papers such as uncoated or unimpregnated greaseproof, glassine, and vegetable parchment.

The method was prepared with consideration of the information contained in the "Suggested Method for Testing Paper for Grease Resistance," submitted by the TAPPI Subcommittee on Grease Resistance [*Paper Trade J.* 103, no. 26:29 (Dec. 24, 1936)] and the results of a later investigation conducted by the Glassine and Greaseproof Manufacturers Association.

*This method has been approved as a tentative standard by the Paper Testing Committee. Send comments to R. G. Macdonald, Secretary, Technical Association of the Pulp and Paper Industry, 122 E. 42nd St., New York City, N. Y.

[1] Marketed by Ottawa Silica Co., Ottawa, Ill.
[2] Obtainable from J. T. Baker Chemical Co., Phillipsburg, N. J.
[3] Obtainable from E. I. du Pont de Nemours & Co., Wilmington, Del.

Development of Naval Stores and Pulpwood Supplies from the Pinus Mercusi of Northern Sumatra*

By D. G. Moon[1]

Abstract

A brief history of the rapid development by the Netherlands East Indies government of a pine crop for production of rosin, turpentine, and pulpwood on the mountains of northern Sumatra and difficulties overcome in the way of terrain and transportation is given. Experimental research, started in 1924, shows that a definite ratio exists between rate of growth and yield, which can be controlled by proper thinning, and yield is a function of the growth of the branches as well as the stem. The thinnings can be used for pulpwood by cutting, peeling, and piling in the plantations until dry enough to float down river to the mill without undue loss and without deterioration when remaining in the piles for relatively long periods.

In the colonization of the Netherlands East Indies the Dutch have shown a remarkable aptitude for modernization and development of natural resources under a social scheme that is almost idealistic.

While one ordinarily associates the Indies with its major capacity for cultivating rubber, coffee, tea, palm oil, etc. for export, as well as its supply of minerals and oil, many other fields are becoming rapidly investigated and developed with the aid of their splendidly equipped and well organized technical laboratories under government supervision.

Among the new projects is the rapid development of a source of gum rosin turpentine and pulpwood in northern Sumatra by a carefully controlled second growth crop of the fast growing *Pinus Mercusi* which are indigenous to the volcanic mountain slopes at elevations from 1500 to 7000 feet above sea level and almost on the equator.

History of Pinus Mercusi

These pines in their virgin state occurred throughout the mountain jungle slopes considerably scattered, but running tall and straight to heights of 200 feet and 11 feet in circumference or more; their seeds generally proved unprolific in the shade of the denser hardwoods, except where sand slides cleared the growth and competition took place for reproduction between the various other species of trees.

The early native aboriginies came, cleared some of this jungle, burnt it, and reburnt it to provide clearings for their fields, and feed for their cattle, or to provide an area for driving deer and other animals in their seasonal hunts; thus, the native population developed extensive grass areas for their use. The big pines scattered their seeds to these clearings and, due to their vitality and persistance, some young trees lived in a continuous battle for survival against fire. Where no fires occurred for a year or so, these young trees had a chance to develop rapidly.

Early Investigations

The Achinese of northern Sumatra were the last natives to submit to colonial influence and in fact the last treaty with the native princes was not signed until 1907; however, with peace established, the colonists noted the possibilities of turpentining but it soon developed that these older trees did not offer a good commercial proposition as they had a restricted limit in tapping, their growth vitality being lowered by the fires and jungle growth, and were so scattered on the mountain slopes that transport was difficult.

Investigation by the government foresters indicated that the second growth where allowed to survive gave

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.
This paper was written about two weeks before the Pearl Harbor attack, Dec. 7, 1941.
[1] Member TAPPI; J. E. Sirrine & Company, Engineers, Greenville, S. C.

Fig. 1—Virgin Pine Forest. Fig. 2—Native with Cocoanuts at Mill Site. Fig. 3—Very Old Decayed and Hollow Tree Still Producing Gum Since 1926. H. van Lennep at Base. Fig. 4—Tree on Left Being Over-Tapped for Thinning

a much higher yield of gum and had a very rapid growth. The age of the old trees was uncertain due to the absence of annual rings, and rate of growth could only be made by observation. Such ring indications that are visible are due only to seasonal variations of more or less rain, in a climate where the temperature varies but a few degrees throughout the year, with considerable rainfall and humidity.

In 1924, the Government decided to make experiments in regard to promoting the growth of these pines for turpentining and placed the control under the government Plantations Department, rather than the Forest Service, in view of the fact that the former had done somewhat similar work in the tapping and growing of rubber trees, etc.

The initial experiments were carried out in a slow but methodical manner for the next 9 years, demonstration forests being started with a view to a future supply of pulpwood as well as rosin and turpentine. Various other species of pines were imported and planted but none found to compare with their native stock.

Practical Operation

By 1933 as a result of this pioneer work, sufficient data had been obtained to warrant the starting of a small commercial enterprise which yielded in the ensuing year 600 tons of rosin and turpentine.

In the next four years such progress and increase in yield had been made that a central distillation plant was built in 1937 at Lampahan near the foot of the old volcano Boer Tellong. This plant has a capacity of 40,000 annual tons of combined rosin and turpentine and can be expanded readily.

The gum is collected at various points in the forest area and delivered to the distillation plant in tank trucks, or drums, over an average haul of 50 miles or more. The finished product is transported by truck a distance of 140 kilometers (85 miles) to a port at Lau, Seumawe, the rosin being packed in boxes of 100 (220 pounds) and the turpentine in drums (made up at the plant from flat sheets) to hold 200 liters each.

Capacity of Naval Stores

As the end of 1941 approaches, the output has been brought up to 12,000 metric tons, 75% as grade X rosin and 25% as turpentine, and 150 miles of road have been built into the forest area which is in very rugged mountainous country with pines occurring along the slopes. These roads follow the slopes in easy grades and are well surfaced for truck transportation of the raw gum.

The total net forest area under development in this particular section amounts to 280,000 acres, which is conservatively expected to give a yield of 750 kg. per hectare or 680 pounds per acre per year of rosin and turps, equivalent to over 90,000 tons per year, and, in addition, pulpwood from the thinning operations will average a cord per acre per year excluding cat faces of tapped out trees which will be used for fuel. The output of pulpwood will depend on the economic ratio in value of future paper products *versus* the naval stores. Other areas will also be progressively developed in ratio of the demand.

Pulpwood Investigations

In 1936, the government plantation laboratories commenced to investigate the pulping possibilities of these pines, and finding it somewhat similar to those in the southern United States, sent their technical director to this country to observe the new developments and mills in the south for reduction under the kraft or sulphate process.

The difficulty to be overcome in considering a pulping operation was the question of transportation of the wood to a suitable mill site. The forest areas being in mountainous country were inaccessible to railroads for either raw materials or finished product. As they lay mostly, however, upon the slopes draining into the Djamboe Atje River, experiments were made with the idea of floating the pulpwood down this stream some 150 miles to Tenpanbate within a short distance of both port and rail facilities along the lowlands bordering the east coast of Sumatra.

At first, it was apparent that the fresh-cut pulpwood would have too great a loss in "sinkers", however, further experimentation developed the fact that this wood could be cut, peeled, piled, and dried on the plantations to 25% moisture without deterioration; in fact, the writer saw some of this wood that had been stored in piles for over 18 months that was only then commencing to show evidence of blue stain. The test runs on river-driven wood when dried out for relatively short periods at the proper season indicated that the loss by sinking would not exceed 3%.

Proposed Pulp and Paper Mill

With the demonstrated assurance that a means for transporting wood was obtainable and that it had good pulping qualities, a long fiber length, and uniformity of moisture and quality, the government decided early in 1941, in spite of unsettled world conditions, to proceed immediately with plans for a sulphate pulp and paper mill of 150 daily tons capacity, of which 75 tons will be bleached, a ready market being available for such products in the Indies for wrapping, containers, and other papers for use both in domestic consumption and export packaging. This mill and other industrial projects are to be designed and built by American Engineers and contractors, and it is believed will prove to be the beginning of a substantial export trade from the United States on construction and industrial equipment, as well as supplies which in the past have gone to Germany and others.

Forest Growth Control

The early demonstration tracts and subsequent commercial operations clearly developed that the yield was greater from young trees than the old, and that advantage would have to be taken of their marvelous possibilities for quick growth and that because of this rapid growth thinning had to be carried out; also, that yield was not only a function of growth and development of the stem but of the branches as well.

With good protection against fire and cattle (and even occasional elephants), the cleared land propogated from the original seed trees or from planting in bare spots forming a carpet of pines running 1000 or more to an acre, which were thinned out at least every second year in progressive stages. Within four years, from the appearance of the shoots, these trees had attained a height of from 18 to 20 feet increasing 5 feet per year up to 12 years when the growth rate decreased, attaining a height of from 50 to 70

feet, by which time the progressive thinning had brought the number of trees down to around 200 per acre, representing from 30 to 40 cords or more per acre.

A careful study of the effects of thinning out was made by dividing the demonstration forests into small tracts, each thinned at different rates and the results compiled. These studies developed several important factors; if the thinning was too great, the young trees developed too rapidly and extended their tops, while the stems tended to curve and bend, thus creating compression wood at these points. Curiously enough, the second growth shows some tendency to become crooked at all times, whereas the virgin tree was straight and tall. A fairly definite ratio of amount and period of thinning was established in relation to yield as well as growth, and data is continuously being collected.

Tapping and Thinning Operations

The French or Bordeaux system of moderate faces is generally employed, roughly 2½ inches wide with

Fig. 5—Naval Stores, Distillation Plant at Lampahan with Volcano of Boer Tellong in Background. Fig. 6—Pine Forest Experimental Tract at Lampahan. Fig. 7—Typical Kuli Line for Native Labor. Pines in background. Fig. 8—General Manager H. Oosterling's House at Takengon. Fig. 9—Collecting Station for Gum. Fig. 10—Djamboe Aje River at Industrial Site

several longitudinal faces as conditions require. A new cut is made only every three days.

Aluminum cups are used for collection of gum with wood covers to keep out chips and leaves.

The first tapping of second growth trees usually commences in about eight years when there are approximately 700 trees per hectare, selecting trees of about 7 inches diameter. After this, a combination of tapping and thinning is carried out. Every three years, certain trees are selected for thinning and are tapped to death in about three years before cutting. In the meantime, the remaining sturdier trees are tapped less severely so as to maintain their growth, usually starting with one face, and after three years, changing to the opposite side with a new face to allow the old face wound to gradually close. When the diameter of the tree has reached 12 inches, two faces together are usually employed instead of one.

Used as Producers for Many Years

The thinning, tapping, and selecting continues until probably only 100 healthy trees per hectare remain. These are used as producers for many years until, based on the economic calculations of yield values, it may be found better to cut the area and replant. How long this cycle will be, it is too early yet to determine.

The method of thinning and degree of same will depend upon the relative value of product for gum compared to pulpwood which it will be possible to calculate from the records of yields, growth, and costs.

If a high production of gum is desired, a more rapid thinning by overtapping will be maintained to increase the yield of the producing trees.

If pulpwood is found to be the more valuable product, the thinning will not be so intense, leaving the cutting for pulpwood to the thinning.

In the future, perhaps some selective cutting may be exercised to provide cheap lumber. However, there are many other native woods more generally used for this purpose.

Labor

The enormous amount of work required in building roads through this mountainous area, planting, collecting, and transporting the products, is economical mainly on account of the cheap coolie labor available, mostly imported from Java.

The Netherlands Indies island possessions as a whole have a population of 70 millions. Java with only 5% of the total area has 70% of the population, approximately 42 million, of which 600,000 are Chinese and 200,000 Europeans. Sumatra, three times the area of Java, has a population of only 8 million, of which 50,000 are Europeans.

Does Not as Readily Work for Wages

Generally speaking, the Sumatran, be he Malay, Achinese, Batak, or Menangkabon, does not as readily work for wages, and Chinese and Javanese farmers are moving from overpopulated Java to settle in Sumatra and work as coolies securing good wages (in respect to their needs), lodging, and hygenic supervision for themselves and their families. At Laken Tangenon, the government maintains for instance a modern well-equipped hospital for the native workers on the plantations referred to in this article.

In Java, to feed the rather heavy population, practically the whole usable territory is put under cultivation and under Dutch tutelage all resources have been brought to play including a marvelous and unique system of irrigation, canals, dams, and control works. One fifth of the island area is under cultivation for rice, the staple native diet. With the emigration of many to the adjoining island of Sumatra, the same excellent government supervision is beginning to take shape there also.

With no exploitation of native labor and government assurance of the rice crop and its cost, hygenic and educational facilities, the Malayan is generally a contented, smiling worker, and also shows considerable aptitude in entering the ranks of skilled labor as machinists, operators, clerks, etc., as, for instance, the main railways in Java are operated almost exclusively by them.

The average cost for coolie labor in the government naval stores operations is approximately 40 cents per 9-hour day, including wages, housing, hospitals, and other welfare provisions.

Supervision

At the head of the Netherlands East Indies Government Plantations, with its main office in Batavia, Java, is H. V. Van Lennep, whose dynamic energy, indomitable spirit and perseverence, have worked marvels in this department, of which the naval stores operation is only a small one compared to rubber and other products. A forester at heart, with a high degree of technical knowledge, practical application and vision, coupled with a pleasing personality, he is never too tired to discuss the many plans he has for future utilization of the island's resources.

Divided Into Areas of 6000 Acres

The naval stores forest operation and distillation plant are under the supervision of H. Oosterling as general manager, with headquarters at Lake Takengon, Sumatra, the center of the forest area which is divided into four or more districts of approximately 30,000 acres, each under a European district manager. These districts are again divided into areas of approximately 6000 acres, under a local European manager, with its complement of native labor, totalling some 3400 coolies from Java and 2000 local laborers for the whole area.

The site selected for the paper mill will be developed as a general industrial center for other products, byproducts, and chemical plants, many of which will be under the supervision of a nucleus of experienced American operators.

A Loyal Staff of Technicians

Assisting Mr. Van Lennep in the main office at Batavia is a loyal staff of technicians and engineers engaged in research, control, planning, etc., and H. R. Braak, Technical Director, has been mainly in charge of the investigations and arrangements for the pulp and paper mill. He has made several visits to the United States in their interests, and as a member of TAPPI has been welcomed into the papermaking fraternity.

Acknowledgment

The writer is greatly indebted to H. V. Lennep, H. R. Braak, and their assistants, for the material given herein and for the opportunity to see at first hand the various operations in both Sumatra and Java.

Survey of Water Technology, 1941*

By Lewis B. Miller[1]

The survey of water technology by the Water Committee of the TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY indicates in a broad way, progress in the field of water technology during 1941. No attempt has been made to treat the field exhaustively nor to compile a complete bibliography upon water. The subject of potable water has in general been avoided except where it overlaps the field of industrial water. The references cited are chosen as being a representative cross section of the best articles published in 1941. In general, preference has been given in the reference list to articles published in well known and widely read American technical and scientific publications, and in some of the best known and still available foreign periodicals. Emphasis has been placed upon those phases of the subject which represent new developments or in which outstanding progress has been recently made.

The activities and progress in the field of water technology in the Technical Association of the Pulp and Paper Industry is given in the annual report[2] of the committee.

A—Water in the War Production Program

It is an obvious truism that in a national emergency where cities and factories may be subjected to the effects of high explosives and sabotage it is essential to protect the water supplies (both potable and industrial) and to effect repairs where damage has occurred. Marvelous progress has been made in this field in much bombed England. Considerable space has been devoted to this subject in the technical literature during the past year.

An outstanding book *(A-1)* by a British authority on the general subject of civil defense discusses various aspects of the water problem.

Shatterproof steel pipe properly protected against corrosion is recommended for defense areas *(A-2)*.

The operation of a British city in wartime is described in a report of the American Municipal Association *(A-3)*.

A series of a dozen articles in a "special waterworks section" of the *Engineering News Record* discusses war and water service *(A-4)*. Intensive construction of new power plants and storage reservoirs by the TVA has been authorized by Congress *(A-5)*. New 10,000 kw. motor steam-electric power plants mounted on special railway cars, supply emergency power for the U. S. Navy *(A-6)*. A mobile ozone unit mounted on a truck is used for water purification *(A-7)*. Effective protection of water and sewage plants by adequate lighting is discussed *(A-8)*.

Priorities for waterworks materials are discussed in a number of articles *(A-9, A-10, A-11)*.

Protection of utilities, emergency equipment, preparedness, sabotage, emergency supplies, and related subjects are presented in many timely articles *(A-12 to A-30)*.

Water for the military forces, camp sanitation, etc., are discussed in various articles and in publications of the War Department *(A-31 to A-36)*.

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B—The Raw Material

Lest those of us who deal with water as an engineering and manufacturing raw material overlook or forget the fact, water has its highly theoretical phases also. Observers of the Mount Wilson Observatory

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[2] Miller, Lewis B., TAPPI "Survey of Water Technology, 1940." *Technical Association Papers* of the Technical Association of the Pulp and Paper Industry, Series 24 (1941) pages 447-459 with 324 references (*See* also 1942 Water Committee Report.)

have applied the most delicate tests to the atmosphere of Mars (through their telescopes) but have found no indication of the presence of water vapor. Since life on the earth is impossible without water, this is a strong indication that neither animal nor plant life as we know it, is existent on Mars. An interesting discussion upon "the curious costs of water" points out that the costs of water may vary from 15 cents per 100 cubic feet as obtained from the faucet to $5000.00 per 100 cubic feet when purchased as a portion of out-of-season vegetables and fruits *(B-1)*. The theory of isotopic exchange among chemical compounds, including water, is discussed in two recent papers *(B-2 and B-3)*. In a summary of theories relating to water, Forbes *(B-4)* points out the molecule of water is a triangle. The bond angle between the lines connecting the two hydrogen nuclei with the nucleus of the oxygen atom is about 105 degrees. The properties of water suggest that the atomic bonds within the water molecule are not purely covalent but have a strong tendency to be ionic and that there are four possible structures:

(1) Covalent structure
(2) One hydrogen atom ionized
(3) The second hydrogen atom ionized
(4) Both hydrogen atoms ionized.

The combination of oxygen gas and hydrogen gas to form water is a highly complex reaction. In liquid water or ice each water molecule tends to coordinate four other molecules around it so that the centers of four coordinated molecules lie at the corners of a tetrahedron as shown by X-ray investigations. Every hydrogen nucleus tends to lie on a line connecting two oxygen nuclei 2.76 A. apart. It is 0.99 A. distant from the nucleus of its own oxygen atom and 1.77 A. from the nucleus of this oxygen of its nearest neighbor. There are nine types of coordination in water. The hydration of ions in solution is greatly influenced by ionic radii. This is sufficient to show that the theoretical phases of water are not lacking.

Further work upon the Saratoga mineral waters *(B-5)* indicates that these waters are enriched in zirconium, tin, and beryllium and depleted in titanium, manganese, cobalt, and nickel as compared to the lithosphere. Bromine and iodine are in excess of their known ratio to chlorine in sea water and the potassium 41 isotope is high. Waters of these qualities must be derived from a bittern shale known as Camillus lime mud rock which was probably originally formed by reaction of feldspar sediments in a bittern sea *(B-35, B-36, B-37)*.

Western water law is elucidated in a U. S. Department of Agriculture bulletin *(B-6)*. The use of water is complicated by the fact that the legal rights to use water from water-courses are based upon two frequently conflicting legal doctrines:

(1) The riparian doctrine that the owner of land adjoining the stream has important rights to the water, and
(2) The appropriation doctrine which permits the use of water on all lands, whether adjacent to the water course or not, and precedence is given to the earliest users.

Parker presents the laws regarding water franchises *(B-27)*. An article discusses a decision of the U. S. Supreme Court of December 16, 1940, regarding the Appalachian Power Co. dam on the New River above Radford, Va., and concludes that Federal control now applied not only to all navigable rivers but to all rivers or streams which it is possible to make navigable. The possible far reaching consequences of this decision are pointed out.

An up-to-date discussion of artesian water in the U. S. is presented in a government publication *(B-7)*.

Detailed studies of aquatic life in Elephant Butte Reservoir adds to our knowledge on this subject *(B-8, B-9)*. Numerous papers dealing with various phases of natural waters and water life were presented before the zoological, botanical, ecological and microscopical divisions of the American Association for the Advancement of Science in its annual meeting held in Philadelphia during December, 1940 *(B-10)*.

An instructive booklet presents the values to be derived from the maintenance or construction of small ponds on farm lands *(B-11)*.

The importance of preventing the entrance of surface or ground waters to anthracite coal mines, involving possible flooding, and methods of prevention have been discussed in a government bulletin *(B-12)*. The problem of the use of ground waters as cooling water for air conditioning units has been ably presented *(B-13)*. This subject was discussed in some detail in the TAPPI Survey of Water Technology for last year *(B-14)*. A study of the highly important subject of water encroachment in oil-filled sand was carried out by a government department *(B-15)*.

Water and sewage patents for the current year are reviewed by Smith *(B-15)*.

The problem of resorvoir silting *(B-17, B-21)* and the removal of silt from reservoirs by sluicing operations *(B-18)* emphasize the importance of this subject. The work of the American Society for Testing Materials Committee D-19 on Water for Industrial Uses is reported *(B-19)*.

The proposed revision in the U. S. Treasury Department standards for drinking water has evoked the liveliest discussion before various technical societies. Sentiment on the subject is by no means unanimous. Important progress is being made, however, in the revision of this important standard *(B-20, B-22, B-23)*.

Inadequate water supplies for paper mills due to low water in streams has been noted again in 1941 *(B-24, B-25)*. An excellent summary of progress for 1940 on potable water supply and purification has been prepared by Howard *(B-26)*.

Detailed information regarding surface water supplies of various sections of the United States is given in U. S. Geological Survey, Water Supply Papers Nos. 849A, 849B, 872, 874, 876, 877, 878, 879, and 881.

The Calco Chemical Division of the American Cyanamid Company located at Bound Brook, N. J., on the Raritan River has achieved a notable solution to the pollution of the river by acid chemical wastes from their plants. Briefly, all plant effluents are sent to a compositing basin of 10,000,000 gallons capacity where a variety of reactions are caused to take place including destruction of the sanitary sewage from the plant by the acid wastes. The effluent from the compositing basin is neutralized in a highly agitated area by precipitated calcium carbonate waste resulting from the manufacture of magnesia insulations at the Johns-Manville Corp. plant across the river and which is transported by pipe line to the Calco plant. The final treated effluent entering the Raritan river is claimed:

(1) To be substantially neutral (above pH of 4.0).
(2) Not to discolor, render turbid, produce oily scum or form sludge on the river.
(3) Not to reduce the dissolved oxygen content of the river by more than 50% of saturation.

This treatment is unusually interesting in that it makes use of very large volumes of waste materials of opposite types from different companies to achieve treatment of an acid waste which formerly polluted the river *(B-29, B-30)*.

The immediate oxygen demand of sulphite waste liquor from paper pulp production has been investigated. The immediate oxygen demand is due to SO_2 and may be satisfied by aerating the waste liquor using activated carbon as a catalyst. The immediate oxygen demand is the only one of consequence. The biochemical oxygen demand (exclusive of the oxygen demand caused by the SO_2) is of minor importance and can be readily met by natural waters *(B-31)*. Studying the heat of adsorption of water by paper, Horitz and McLean *(B-32)* point out that long heating of paper above 100 deg. C. markedly reduces the capacity of the paper to again take up water. A field study of the disposal of brine waters in oil fields has been made during the past year *(B-33)*. A theoretical study of the motion of ground water was presented before the New York Academy of Sciences *(B-34, B-38)*.

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Process Water for Industry

Process water in its various aspects is under systematic investigation by various technical societies. The American Society of Mechanical Engineers has for years concentrated effort upon boiler feedwater. The TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY is carrying on intensive investigations upon process water as related to this industry. The American Society for Testing Materials has recently begun studies upon process water for industry in general. The New England Water Works Association also has given some thought to this subject. The American Water Works Association on the other hand confines itself primarily to the consideration of potable waters. As previously noted, TAPPI has prepared a monograph on process water for the pulp and paper industry which was published in 1942.

Two interesting patents have been issued on treatment of waste waters. One of these *(C-1)* consists in the treatment of paper mill white waters by means of an aluminum compound and a sulphonated oil between pH values of 4.0 and 6.0. A unique use of asbestos fiber for the purification of waste liquors or sewage has been disclosed *(C-2)*. A fine fundamental study of alum in connection with paper sizing indicates that best sizing occurs at the isoelectric point of the alumina-size system which normally occurs at a pH of 5.75 to 6.00 *(C-3)*. The proper treatment of boiler feedwater in its relation to steam generation for the paper industry was presented recently *(C-4)*. The use of Sveen glue for improving retention on the paper machine and for solids removal in the saveall has found increased usage during the past year *(C-5, C-6)*. McConnell presented a paper setting forth generally recognized methods for treating paper and pulp mill process water *(C-7)*. The several methods of treating spent pickle liquor from the iron and steel industry has received consideration by Willan both from the technical and economic viewpoints *(C-8)*. A general discussion of the factors in the reuse of white water from the paper mill has been presented by Loddengaard *(C-9)*. The editorial department of Chemical and Metallurgical Engineering has made an extensive report upon the treatment of water for the process industries *(C-10, C-13)*.

A series of three excellent papers on waters for industrial purposes has been prepared by Collins of the U. S. Geological Survey *(C-11)*. These papers possess additional merit since they are presented from an unusual viewpoint.

Some of the larger corporations with waste problems of proportionate size have found it desirable to organize waste departments to deal with such problems. In an article by Hart the well equipped and manned laboratory of the Atlantic Refining Company which deals with the development of processes of waste treatment is described *(C-12)*.

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Water Treatment

A comprehensive study of the sedimentation of suspensions *(D-1)* with varying concentrations and rates of settling indicates that there is a constant-rate period at first in which the slurry is fluid followed by compacting period in which the sludge is under consolidation analagous to that of soils.

The formation of carbonaceous zeolites for treating water from coal and other natural products has received a great deal of attention during the past year *(D-2, D-3, D-13)*. Activated carbon for water purification may likewise be made from coal refuse *(D-11)*. Related to the above is the recent development of synthetic resins which exhibit exchange-adsorbent properties and are said to be capable of removing Ca, Mg, Fe, Mn, Cu, and similar ions when used as the sodium salt and Na, K, and NH_4 ions when used as the hydrogen compound *(D-4, D-5, D-10, D-17)*.

A new and interesting product has been developed by the Dicalite Company which consists of a diatomaceous filter aid coated with base exchange resins. This product serves the double function of assisting in the deodorizing and clarification of the solution by filtration and at the same time removing undesirable ions *(D-28)*.

Manganese troubles in deep reservoirs is not overcome by silting since the silt itself contains manganese *(D-6)*. The isoelectric point of manganese hydroxide is at pH 9.8. Above pH 9.3 complete removal of manganese by flocculation is possible *(D-12)*.

The use of zeolites for concentrating solutions of cations by adsorption from dilute solution followed by regeneration in smaller volumes of solvent appears feasible under certain conditions.

An interesting patent *(D-8)* describes an electrical treatment of water whereby the water is subjected to not more than 12 millivolts of potential by a direct current between electrodes. By this treatment hardness in the water is subsequently prevented from forming a scale but is thrown down as a readily removable sludge.

A rather large series of non-metallic minerals find use as water softeners *(D-9)*.

A discussion of the comprehensive efforts and treatments to be used to insure the purity of the New York City water supply from the Delaware River has recently been written *(D-14)*.

A novel method of pitch control in paper manufacture makes use of an emulsifying agent which forces the pitch into the aqueous phase, thus preventing it from adhering to the fibers *(D-15)*.

An interesting water treatment with HCl causes the ice formed from the treated water to be clear, transparent and *noncracking*. This is of particular importance in the preparation of frozen fresh foods *(D-16)*.

The use of sulphite waste liquor for fractionating a clay slurry is described in a recent patent *(D-18)*. St. Paul water supply is reduced in hardness by 87 p.p.m. at a cost for chemicals of $3.51 per million gallons *(D-19)*. The removal of fluorides from water has received considerable attention again this year *(D-20, D-21)*.

Closely allied to water treatment and utilizing some of the same principles, is sewage treatment. A new publication by the National Lime Association on sewage treatment contains much valuable information *(D-22)*.

Further developments in the usage of the unique product, sodium hexametaphosphate, for prevention of precipitation or scale formation from waters containing temporary hardness and in corrosion prevention continue to appear. Because of the interest in this product a number of references are cited *(D-23, D-27)*.

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Water Analysis

Methods of determining phosphates have been described in several publications *(E-1, E-2)*. Specifications for analytical reagent chemicals have been prepared by an American Chemical Society committee *(E-3)*. Methods of spectrographic analysis were discussed in a symposium held by the American Society for Testing Materials at their annual 1940 meeting *(E-4)*. Other publications discuss this method further *(E-5, E-6, E-11)*. A complete issue of the analytical edition of *Industrial and Engineering Chemistry* is given to the presentation of instrumental methods of chemical analysis *(E-7)*. A large part of the abstract section of the May, 1941 issue of the *Journal of the American Water Works Association* contains descriptions of analytical procedures as applied to water. Some of the applications of the relatively new methods of chromatography are applicable to methods of water analyses *(E-9)*. A bibliography of articles on methods of analysis by the dropping mercury electrode has been prepared by a leading manufacturer *(E-10)*.

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Corrosion

The literature on corrosion is so extensive and so varied that it is far beyond the scope of this paper to attempt to review all of it. Among those papers which have come to the attention of the writer, a relatively few representative or outstanding ones must serve as references. Mears and Brown *(F-1)* have conducted a thorough investigation into the causes of corrosion currents which they find to be:

1. Grain boundaries
2. Orientation of grains
3. Differential grain size
4. Differential thermal treatments
5. Surface roughness
6. Local scratches or abrasions
7. Difference in shape
8. Differential strain
9. Differential preexposure to air or oxygen
10. Differential concentration or composition of the corroding solution
11. Differential aeration
12. Differential heating
13. Differential illumination
14. Differential agitation
15. Contact with dissimilar metals
16. Externally applied potentials
17. Complex cells.

Steam temperatures in high pressure boilers approaches that used for the commercial production of hydrogen by reacting steam with iron. Under these conditions steels below 7% in chromium content show appreciable corrosion *(F-2, F-3)*. The American coordinating committee on corrosion held its third annual meeting at Gibson Island, Md., under the chairmanship of F. N. Speller. Corrosion fatigue resulting from exposure to simultaneous corrosion and fatigue stresses has been discussed briefly *(F-3. See F-4)*. Numerous articles have been written during the past year upon bacteria as a couse of corrosion *(F-5)*.

The use of sodium hexametaphosphate in so-called "threshold" treatment of water for corrosion control is continuing to receive favorable consideration *(F-6—F-9)*.

Among the recent investigations on corrosion are those described in recent publications from the Haering Laboratories *(F-10—F-16)*. Scale formation and corrosion are influenced by dissolved solids in the waters. Iron contents of either water or deposits are not indicative of corrosion rates in recirculating water. A chloride content of 500 p.p.m. does not appreciably increase corrosion rates in cooling water systems, but 1500 p.p.m. accelerates corrosion mildly. Above 5000 p.p.m. chlorides cause a sharp increase in corrosion rates. Chromates and complex organic compounds function well as corrosion inhibitors. An important point emphasized throughout these publications is that there is no general cure-all treatment for corrosion. Each water system is an individual problem requiring special diagnosis; in fact the same system at different times may represent different problems.

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Boiler Feedwater

A series of publications from the Betz Laboratories explains in simple language the interpretations of water analyses *(G-1)*.

The trend in central steam generating plants is still towards higher temperatures and pressures *(G-2)*. Among 35 new large units, one will operate below 300 pounds (in order to conform to steam conditions in the plant), 5 will employ pressures between 500 and 750 pounds, 16 between 750 and 1000 pounds, 11 between 1000 and 1500 pounds, 2 over 1500 pounds of which the highest employs a 2000-pound pressure. Thirty of the 35 units use pulverized coal. One outstanding departure from previous practice is the use of forced circulation in the boilers. In boiler types the two-drum, bent tube design appears most popular, although a number of 3- and 4-drum types and fewer straight-tube, box-header, and sectional-header types

are made use of, particularly in the more moderate pressure ranges.

In contrast to the trend in American practice, it is stated that German boiler construction is favoring more moderate pressures of 1000 to 1200 pounds *(G-3)*.

Recognition of the part played by soluble silica in causing caustic embrittlement in boilers has led to active research for methods of removing soluble silica from feed water. Adsorption by magnesium oxide or by aluminum compounds in conjunction with hot or cold lime-soda softening treatments have received most attention during 1941 *(G-4—G-11)*. An "embrittlement detector" invented at the Eastern Experiment Station of the U. S. Bureau of Mines is of great assistance in determining whether operations in a given boiler are apt to lead to caustic embrittlement *(G-12)*. With the embrittlement detector it has been determined that Na_3PO_4 is effective in preventing embrittlement provided no free NaOH is present in the boiler water. Nitrates and quebracho above certain concentrations prevent embrittlement. An excellent and comprehensive discussion of embrittlement will soon be published by the U. S. Bureau of Mines *(G-14)*.

The use of organic boiler feedwater treatments are finding use in the prevention of intercrystalline cracking, prevention of carryover, reduction of corrosion, etc. *(G-15—G-17)*. (*See* also section on Corrosion.)

Vycor glass tubes made by the Corning Glass Company are said to have been used as boiler tubes. Metal temperatures in boilers are properly receiving careful attention by investigators *(G-18, G-19)*. An excellent review of the subject of steam generation is to be found in a paper read before the British Institution of Chemical Engineers *(G-20)*.

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Bacteriology and Biochemistry of Water

The literature on this subject is extensive. In the papers presented before the TAPPI Annual Meeting, the subjects of bacterial counts in paper and paperboard *(H-1)*, degradation of felts by bacteria *(H-2)*, water problems *(H-3)*, storage of fibrous materials subject to bacteria growths *(H-4, H-6)* and economic losses due to bacteria *(H-5)*, have been discussed. Chlorine, so necessary to bacterial control, has been under close government control for some months. To date there appears to be no difficulty in obtaining chlorine for water treatment where the failure to obtain chlorine may affect public health. Data on the solubility of chlorine in water at varying temperatures and pressures have recently been presented *(H-7)* and a nomograph prepared for calculating this solubility *(H-8)*. A comprehensive and attractive brochure on chlorine has recently been issued by the Pennsylvania Salt Co. *(H-9)*. The subject of break point chlorination has received abundant attention by investigators and writers during the past year. The function of bacteria in certain types of metallic corrosion is becoming more fully appreciated as indicated by the numerous papers published dealing with this subject *(H-10)*. An unusual method of destroying algae which were causing unpleasant tastes in a public water supply was made use of at Council Bluffs, Iowa. Algae require sunlight for growth. By adding activated carbon to the raw water supply which absorbed the sunlight, algal growth was inhibited *(H-11)*. An investigation has been made of the effect of pH on the growth of H_2 and CO producing bacteria *(H-12)*. The little known oligodynamic effect of metals, particularly of silver, is presented clearly and in detail in one chapter of a recent book *(H-13)*. Vaporized silver for rendering air sterile has likewise been made use of *(H-14)*. Progress in biological inquiries has been made the subject of a bulletin by the U. S. Bureau of Fisheries *(H-15)*.

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Equipment

In the equipment field progress appears to have been characterized by improvements in existing equipment rather than by the introduction of anything of a revolutionary nature. A complete portable test kit for boiler feedwater and boiler water analysis has been announced by W. H. & L. D. Betz Co., consulting engineers of Philadelphia. A kit of equipment for conducting stream surveys has been described *(I-1)*. The Pomona Pump Co. has developed a vertical turbine pump with vanes of improved shape

which greatly increase the efficiency of the pump *(I-2)*. The Graver Tank and Mfg. Co. have announced a "Reactivator" equipment which is of particular value in removing iron, hydrogen sulphide, and CO_2 from water *(I-3)*. Industrial Instruments have developed a "Solu-Bridge controller" for determining the concentration of chemical solutions for use in the paper industry *(I-4)*. Asbestos-cement pipe are finding greatly increased use at the present time for conveying water and certain types of fluids *(I-5, I-6)*. A portable chlorinator with pumps, sandfilters and chlorinators capable of delivering 150,000 gallons of pure drinking water per day has been designed and built for military use *(I-7)*. Transparent lucite oil and chemical feeders have been developed by the McCord Radiator and Mfg. Co., *(I-8, I-9)* and the Wilson Chemical Feeders, Inc. An improved trickling feeder has been recently designed *(I-10)*.

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I- 7 Publication of Niagara Alkali Co., 60 East 42nd Street, New York City, N. Y.
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Recent Books on Water and Related Subjects

Recent books on water and related subjects are many and varied *(J-1—J-33)*. Among these books is the monograph on industrial waters for the pulp, paper, and paperboard industry *(J-33)*.

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New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

A. O. Bragg, pulp and paper technologist, Diamond Alkali Company, Painesville, Ohio, a 1915 graduate of the University of Maine, and formerly with the Oxford Paper Company, Rumford, Maine, and the Kuehne Chemical Co., Elizabeth, N. J.

Alfred J. Corey, acting director of research, Fraser Companies, Limited, Campbellton, N. B., a 1932 graduate of McGill University, having received his Ph.D. from the University in 1936.

John A. Hanson, sulphite superintendent and chief chemist, Badger Paper Mills, Inc., Peshtigo, Wis., a 1918 graduate of Northwestern University, and formerly with Marathon Paper Mills, Wausau, Wis.

Russell T. Hudson, shift chemist, Union Bag and Paper Corporation, Savannah, Ga., a 1941 graduate of Louisiana State College and formerly with the Southern Kraft Corporation.

Winfred C. Hunter, chemist, The New Haven Pulp & Board Co., New Haven, Conn., a 1941 graduate of Kalamazoo College.

Victor R. Johnson, chief chemist, St. Marys Kraft Corporation, St. Marys, Ga., a 1939 graduate of Macalester College and formerly with the St. Joe Paper Company, Port St. Joe, Fla.

Samuel Klabin, partner and director of Industrias Klabin Do Parana, Sao Paulo, Brazil, a 1930 graduate of the Technical College, Altenburg, Germany.

William D. Littlefield, chemist, Whiting Paper Co., Holyoke, Mass., has been reinstated as an Associate Member.

Douglas Mahoney, superintendent and chemist, Burnside Company, East Hartford, Conn., and formerly with the Monroe Paper Co., Lawrence, Mass.

Peter J. Massey, assistant to the president, H. P. Smith Paper Co., Chicago, Ill., and formerly with the Combined Locks Paper Co., Combined Locks, Wis., and the Seaman Paper Company, Chicago, Ill.

Vincent J. Mohan, research chemist, American Gum Importers Association, Brooklyn, N. Y., a 1939 graduate of Pratt Institute, and formerly with Sigmund Ullman Co., New York, N. Y., and Frederick H. Levey Co., Inc., Brooklyn, N. Y.

Arthur J. Saunders, mechanical engineer, Sidney Roofing & Paper Co., Ltd., Industrial Reserve, Victoria, B. C., Canada, a 1933 graduate of the University of British Columbia, and formerly with Pacific Mills, Ocean Falls, B. C.

Max F. Wendt, chief engineer, Johnson & Wierk, Inc., 415 Lexington Ave., New York, N. Y., a 1920 graduate of Stevens Institute of Technology, and formerly with Karl A. Lefren, New York, N. Y.

W. Burton Wescott, owner and director, W. B. Wescott Laboratory, Dover, Mass., and formerly with Rubber Latex Research Corp., Boston, Mass.

CLEANER PROCESS WATER

Norwood Filters Give You BETTER WATER . . . To Help You Keep Up the QUALITY of Your Production

These Norwood Filters are in constant operation at the Fox River plant of the Fox River Paper Corp., Appleton, Wisconsin, makers of fine rag content bonds and ledgers.

YOU can keep up the quality of your production . . . keep your paper free from spots and specks . . . with Norwood Filters, for these efficient filters give you cleaner, better process water. The sound designing and building of Norwood Filters is based on nearly half a century of experience working with the water problems of paper mills. Norwood Filters have many features that help them do a better job, and they give trouble-free operation with low maintenance costs. Investigate Norwood Filters today.

Send For Engineering Data Units.
We'll gladly send you a set of Engineering Data Units covering Norwood Filters, upon request.

Get a Good Start And a Good Finish With
NORWOOD
WATER FILTERS AND PAPER FINISHING MACHINERY

The Norwood Engineering Company
17 No. Maple St., Florence, Mass.

"NON-USERS ARE THE LOSERS"

PROFIT PRODUCERS

TENAX FELTS

ANNUAL CHECKUP TIME

Many paper and board manufacturers now confronted with wartime shortages and restrictions, can justify their foresight in clothing their machines with TENAX FELTS. These time proven and long lasting felts are standing the strain of increased production,—with resulting economies and profits.

"Non-Users Are The Losers"

LOCKPORT FELT COMPANY
NEWFANE, N. Y.—U.S.A.

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

Importers may have their shipments listed in these columns by submitting records of imports to this publication.

NEW YORK IMPORTS

WEEK ENDING APRIL 11, 1942

SUMMARY

Transparent paper .....2 cs.
Miscellaneous paper .....1 cs.

TRANSPARENT PAPER

Saentis, Inc., ——, ——, ...2 cs.

MISCELLANEOUS PAPER

Schleicher & Schull Co., ——, ——, ...1 cs.

RAGS, BAGGINGS, ETC.

West Texas Cottonoil Co., ——, ——, 491 bls. cotton linter motes.
——, ——, ——, 97 bls. cotton linter motes.
——, ——, ——, 553 bls. cotton linters.

GLUESTOCK, ETC.

Manufacturers Trust Co., ——, ——, 123 bls. gluestock.
National City Bank, ——, ——, 100 bags skin glue.
——, ——, ——, 100 bags hide glue.

CASEIN

Chemical Bank Trust Co., ——, ——, 417 bags.
——, ——, ——, 1210 bags.
National City Bank, ——, ——, 1740 bags.
J. H. Schroeder Bkg. Corp., ——, ——, 100 bags.
Manufacturers Trust Co., ——, ——, 584 bags.

James Considine Jr. Killed in Action

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 13, 1942—News was received today of the death of Pilot Officer James P. Considine, Jr., brother of Norbert A. Considine, president of the Paper House of Pennsylvania. "Jimmy", was killed while a member of the famed Eagle Squadron in England. A cable from the Air Ministry offices in London gave scant details to the flier's father, James P. Considine, 80, of 918 North 63rd street, former vice-president and business manager of the old North American and widely known Catholic layman.

Beside his father and mother, he is survived by his sisters, Mrs. Jane Considine Foley of Waukegan, Ill., Elizabeth, Mary and Isabel, and his brother, Norbert A. Considine. He had another half-brother, Lieutenant Raymond Considine, who died in 1928 from wounds received while fighting in the Argonne in the first World War.

WPB Forms Paper Machinery Group

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Apr. 15, 1942—The Bureau of Industry Advisory Committee, WPB, today announced the formation of the Pulp and Paper Machinery Industry Advisory Committee.

L. S. Greenleaf is Government Presiding Officer.

Committee members are: Elmer H. Neese, Beloit Iron Works, Beloit, Wis.; Homer W. Martindale, Black-Clawson Company, Hamilton, Ohio; S. Harley Jones, E. D. Jones & Sons Company, Pittsfield, Mass.; Leonard J. List, Samuel M. Langston Company, Camden, N. J.; Walter L. Barker, Improved Paper Machinery, Nashua, N. H.; William Buchanan, Appleton Wire Works, Appleton, Wis.; William W. Bolton, Emerson Manufacturing Company, Lawrence, Mass., and Samuel J. Campbell, Hudson Sharpe Machinery Company, Green Bay, Wis.

Summer Paper Courses at Maine

The University of Maine will again conduct a summer course in Pulp and Paper Technology and Chemical Engineering during the six weeks between July 6 and August 14, 1942.

The pulp and paper technology courses include lecture courses in pulp and paper manufacture and laboratory courses in paper making, pulp coloring and paper testing. These courses are designed for paper salesmen, laboratory helpers, etc., who previously have not had an opportunity to obtain a general scientific understanding of the pulp and paper industry. In addition to class and laboratory work there will be a number of mill visits.

The chemical engineering courses include laboratory and lectures, the theory of which is based on chemical engineering equipment, some pieces of which are of particular interest to the pulp and paper industry.

A copy of the Summer Session Catalog, which explains courses offered, expenses, etc., may be obtained by addressing Director R. M. Peterson, University of Maine, Orono, Maine, and if interested, early reservations should be made.

Paper Stock Market Loss Active

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 13, 1942—From the packers of paper stock comes the report that they are experiencing one of the quietest spells for some time; there is a lack of demand for the lower grades, and the mills who are getting as much as they can handle are storing away the surplus. The mills are exercising great scrutiny as to the quality of the packings of the lower grades, all of which tends to indicate that there is quite an accumulation on hand, and it is the thought of some of the merchants here that prices may be affected, and to quote one merchant, "While we have ceilings, there are no floors to the prices—if the mills get more than they need it will unfortunately bring about lower prices."

R. Bell-Irving on Wartime Board

Robert Bell-Irving, Vancouver, B. C., vice-president of the Powell River Company of Vancouver and Powell River, has been appointed as member of a committee of the Wartime Prices and Trade Board to study possible economies in the pulp and paper industry in Canada.

Special FOR PAPER

PARIS 2 Black

A COLUMBIAN COLLOID

This "single purpose" pigment was specially created to overcome the dispersion problems commonly associated with carbon blacks. One test will give convincing evidence that it is the easiest wetting black in the paper field.

- Free from oiliness
- Optimum particle size
- High tinctorial strength
- Ease of dispersion
- Ease of handling
- Uniformity

Use PARIS 2 Black in your black and gray paper stocks with assurance

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Compressed or Semi-Compressed for Jet Black Papers

Uncompressed for Tinting Gray Stocks

We invite technical inquiry

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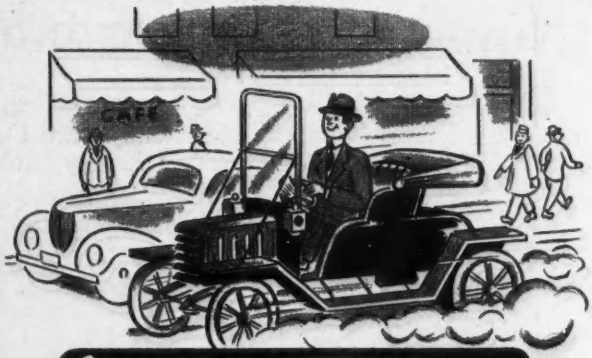

You'll GET SERVICE, TOO, FROM APPLETON FELTS

Service that paper mills expect from quality equipment, designed and manufactured with technical foresight, to meet the high speed production requirements of mills—

make APPLETON FELTS good paper

Today Appleton Felts are preferred by paper mills because since 1890 these felts have progressed with the industry, meeting each year the production requirements placed upon them — today's standard for paper mill felts.

APPLETON WOOLEN MILLS, APPLETON, WIS.

New York Paper and Pulp Market Review

OPA Announces Changes In Dealers' Mark-Up Tables On Bristol Board—Kraft Paper and Board Demand Heavy—No. 1 Mixed and Folded News Soft As Supply Increases—Other Markets Are Firm.

Office of the PAPER TRADE JOURNAL
Wednesday, April 15, 1942.

Demand for major lines of paper is well maintained, according to reports received during the current week from many manufacturers' representatives, jobbers, and general paper merchants. The expected trend to a less active demand in many lines is reported in some quarters. This decline is reported in grades of paper and paper board not essential for military use.

The index of general business activity for the week ended April 5 rose to 136.0%, from 133.8% for the preceding week, compared with 121.7% for the corresponding week last year. Paper board output was fractionally higher.

Paper production for the week ended April 5 was estimated at 101.3%, compared with 93.5% for 1941, with 82.0% for 1940, with 84.7% for 1939, and with 67.3% for the corresponding week for 1938.

Paper board production for the week ended April 5 was 88.0%, compared with 85.0% for 1941, with 68.0% for 1940, with 71.0% for 1939, and with 58.0% for the corresponding week for 1938.

The OPA has announced two changes in dealers' mark-up tables, which were included in individual agreements sent by the Office of Price Administration to fine paper merchants on March 25. The changes permit merchants to follow customary practice in computing maximum prices in the sale of bristol board. The agreements signed and returned to the OPA will, Leon Henderson said, be treated as amended.

Kraft wrapping paper demand continues heavy. Sulphite bond papers, in the medium and lower grades, are in active demand. Container board for government requirements is in very heavy demand. Prices are firm on all major lines of paper and paper board.

Chemical Pulp

Heavy demand continues to be reported on all grades of chemical wood pulp. The easier situation in some grades of paper, and the substantial decline in some book papers, due to curtailment in advertising, has provided more pulp for other grades of paper. The anticipated further decline in demand for various grades of paper for civilian use, is not expected in some quarters to provide a broader or more ample supply of wood pulp. Government requirements, it is held, will be heavy and good grades of pulp will continue to be scarce.

Rags

Demand for several grades of old cotton rags continues good. The roofing grades are in steady demand. Prices on all grades are firmly maintained.

Old Rope and Bagging

No important change in the limited supply situation in No. 1 Manila rope or in the prices on other grades of rope, strings and threads, has been reported this week.

Demand for scrap bagging is reported heavier at this date. Prices are firmly maintained and are unchanged.

Old Waste Paper

Collections of No. 1 mixed and folded news are reported so large under the various salvage drives, that the market situation in these items is definitely soft, not only in New York but at most centers. It is also reported that mills are refusing to accept much of the poor grade packs offered. Mill inventories, in general, current reports indicate, are sufficient to warrant the adherence to customary standards. The trend to a lower production ratio in news and chip board, is reported in some quarters as beginning. This is held to be the forerunner of lower than OPA maximum prices on these lower grades of paper stock.

Twine

Demand continues good in many grades of twine at this date. Prices are firm. No important changes from prevailing, average, representative quotations have been reported in major grades of hard and soft fiber twine.

Charles P. White Dead

Charles Prentice White, president of Charles F. Hubbs & Co., general paper merchants, 389 Lafayette street, New York, died April 7 at his home, 1 Maple avenue, Glenbrook, Conn. He was sixty years old.

Mr. White, a native of Glenbrook, was a graduate of Stamford High School. He first entered the paper business in 1904 with Coy Hunt & Co. in New York. The next year he joined the Hubbs Company. He became vice-president of the company in 1919 and was elected president in January, 1936. He was a director of the Hubbs & Corning Co., of Baltimore, and of the Stamford Savings Bank.

Mr. White was vice-president of the Young Men's Christian Association here, and the first vice-president of the Alfred W. Dater Council of Boy Scouts. He was also a director of the Woodway Country Club.

Surviving are his wife, Mrs. Vivian King White; three daughters, Mrs. Clark H. Greene, of Stamford; Mrs. Edwin F. Kittle, of Northfield, Vt., and Mrs. John F. Cleary, of Old Greenwich. Conn.; a brother Arthur White, and three sisters, Mrs. S. J. Evers, Mrs. Carolyn H. Soule and Mrs. Albert Lynch.

Lewis F. Nelson Elected Mayor

Lewis F. Nelson, president of the Badger Tissue Mills, was elected last week as mayor of Kaukauna, Wis., by a healthy margin over his opponent. Mr. Nelson formerly served in that office, and was recently appointed to fill the unexpired term of Mayor William Gantter, who died while in office.

At Your Service...

You are invited to use Our Technical Service on

STARCHES
GUMS
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FOR ENZYME CONVERSION

AMIJEL
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FOR CORRUGATING

WRITE...

Corn Products Sales Co.
17 BATTERY PLACE
NEW YORK CITY

REJECTS are a DOUBLE LOSS NOW!

• *Check on Calender and Press Rolls . . .* THIS EASY WAY:

Use the Lobdell Micrometer Roll Caliper to measure accurately wear on rolls . . . to check re-grinding, too. Very easy to use . . . it's light in weight, quickly adjustable to a wide range of roll diameters by movement of a single pinion.

69c
a day is its approximate cost — writing off the investment in a single year!

The Lobdell Micrometer Roll Caliper is available from stock for rolls from 7" to 30" or 8" to 36" in diameter; can be speedily made to order in larger sizes.

LOBDELL
CAR WHEEL COMPANY
107 Years in Business
WILMINGTON·DELAWARE

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL
Wednesday, April 15, 1942.

BLANC FIXE—Prices on blanc fixe are firm and unchanged and conform to prevailing market levels. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton, f.o.b., works. Demand reported good for the week.

BLEACHING POWDER—Quotations on bleaching powder are firm. Demand reported good for the week. Bleaching powder is currently quoted at $2.25 per 100 pounds, in drums, at works.

CASEIN—Prices on casein are little changed for the current week. Standard domestic casein, 20-30 mesh, is currently quoted at 21 cents per pound; 80-100 mesh, at 21½ cents per pound. All prices in bags, car lots. Argentina casein, 20-30 mesh, is currently offered at 17 cents per pound, c.i.f. No quotations in French casein.

CAUSTIC SODA—Quotations on caustic soda are firm and continue unchanged at prevailing market prices. Demand reported good. Solid caustic soda is currently quoted at $2.30 per 100 pounds; flake and ground at $2.70 per 100 pounds, in drums, car lots, at works.

CHINA CLAY—Prices on china clay are firm and conform to prevailing market levels. Demand reported moderate at this date. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is currently offered at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine are firm and unchanged. Demand absorbing production. No further change in restrictions of use. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The rosin market is reported firm for the week with prices lower on some grades. "G" gum rosin is currently quoted at $2.93 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $2.88 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $3.29 per 100 pounds f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand good for the current week. Domestic salt cake is currently quoted at $15 per ton, in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. The quotation of $16 per ton imported salt cake is nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market levels. Demand reported good for the week. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are firm and are reported unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds. All prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina. Demand reported good for the current week. The commercial grades are currently quoted at from $1.15 to $1.25; iron free at from $1.75 to $1.85 per 100 pounds. All prices in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and conform to prevailing market levels. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $18 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mines. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$6.00	@	$7.00
Superstandard	5.25	"	6.25
Northern Standard Wrapping	4.75	"	5.25
Standard Wrapping	4.75	"	—
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.05	"	—
White No. 1½	1.00	"	—
White No. 2	1.00	"	—
Anti-Tarnish M. G.	.95	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.35	"	—
Bleached, Jr.	2.65	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.75	@	10.75
No. 1 Manila Wrapping, 35 lb.	5.50	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	*48.00	@	—
Chip	*45.00	"	—
Sgl. Mla. Ll. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*60.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$40.25@$47.25	$41.40@$48.50
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	32.20 " 37.75
75% Rag	24.75 " 29.00	25.90 " 30.50
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.50
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.25
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.60	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. & S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. & S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Mechanical Pulp*

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	—	@	—
Dry	—	"	—
(Delivered)			
No. 1 Domestic and Canadian	—	@	—

Chemical Pulp*

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	—	@	—
Prime Qualities—			
Easy-Bleaching Sulphite	—	@	—
Strong Unbleached Sulphite	—	@	—
News Grade, delivered			
Unbleached Sulphite	—	"	—
(On Dock, Atlantic Ports)			
Kraft Bleached	—	"	—
Kraft Light & Strong	—	"	—
Kraft No. 1	—	"	—
(Delivered)			
Kraft Domestic and Canadian	—	"	—
(Delivered)			
Soda Bleached	—	"	—

Add 60 cents per short ton, deck charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

* All prices withdrawn pending issuance of OPA price schedule.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Skirt Cuttings—			
New White, No. 1	8.00	@	8.25
Silesias No. 1	4.50	"	4.75
New Unbleached	8.00	"	8.25
Blue Overall	5.75	"	6.00
Fancy	3.00	"	3.25
Washables	2.50	"	2.75
Mixed Khaki Cuttings	2.50	"	2.75
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
* Old Manila Rope	5.75	"	—

*OPA Maximum Prices.

Foreign Rags

All prices nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	@	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40

IS YOUR PLANT OVERTAXED

BY ACTION OF *Slimeform*?*

It's money out of your pocket when slime-forming micro-organisms act to limit your production, to raise your costs, and lower the quality of your paper. Obstructed lines, plugged felts, blinded wires . . . all pile up extra expenses that are doubly difficult to meet when labor is scarce and costs are rising. Yet most of these difficulties can be inexpensively overcome by close microbiological control of process water.

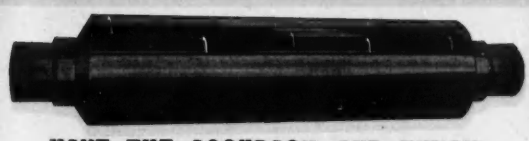
Even under today's conditions, Wallace & Tiernan is in a position to aid many paper producers facing these difficulties. Experience in more than 300 mills has shown how closely controlled application at the proper points can conserve chlorine and still eliminate microbiological growths. For information and assistance that will help keep your plant processes permanently slime-free, get in touch with Wallace & Tiernan today. P-34

WRITE FOR 42-PAGE BOOKLET *"Microbiological Control in Pulp and Paper Manufacture" discusses latest practice now employed at prominent mills. Write for a copy of TP 472.*

*Slime-forming micro-organisms that thrive in process water.

WALLACE & TIERNAN CO., Inc.
MANUFACTURERS OF CHLORINE AND AMMONIA CONTROL APPARATUS
NEWARK, NEW JERSEY . . . REPRESENTED IN PRINCIPAL CITIES

FARREL ROLLS



HAVE THE ACCURACY AND FINISH NEEDED FOR FINE PAPER MAKING

To produce top-quality paper, rolls must be accurate and smoothly finished, with correct shape and crown and with chilled body surfaces of uniform hardness and depth. These features have distinguished Farrel Rolls for eighty years. That is why they are preferred by leading paper manufacturers.

Farrel Rolls are also notable for giving many years of trouble-free service at low maintenance cost.

Farrel rolls are made in any diameter from 4" to 72" and any face length up to 312", of chilled iron or extra hard Farreloy and Farrel Ni-Hard.

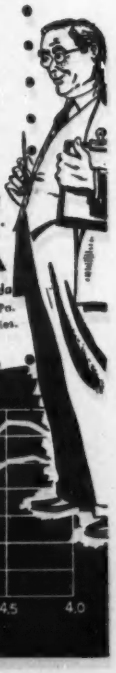
FARREL-BIRMINGHAM COMPANY, INC.
50 State St., Ansonia, Conn.

PQ SILICATE AID

Increase yield by Correct use

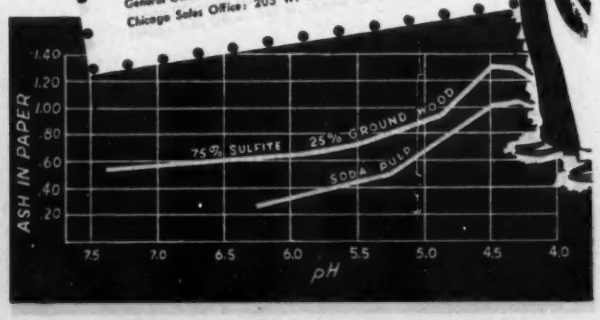
"We've found" say paper mill operators, "that we get increased yield by precipitating PQ Silicate in the beater with alum at 4.6 pH." When more of the silicate is retained, it is measured by a higher ash content of the finished sheet (see chart below).

Thus these mills also get better quality paper. PQ Silicate helps to improve the finish and strength, also to increase rosin retention. Get more facts from PQ. Write for Bulletin #61.



PQ SILICATES OF SODA

Philadelphia Quartz Co. Manufacturers of Silicates of Soda
General Offices and Laboratory: 125 S. Third Street, Philadelphia, Pa.
Chicago Sales Office: 205 W. Wacker Drive. Stocks in 65 cities.



Ord. Light Prints	1.75	"	2.12
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.09	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.00	@	4.25
Wool Tares, light	4.25	"	4.50
Wool Tares heavy	4.50	"	4.75
Bright Bagging	4.50	"	4.85
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	4.25	"	4.75
Sisal Strings	3.25	"	3.75
Mixed Strings	1.10	"	1.20

* OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
Mixed Books	1.07½	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Mixed Ledger, colored	1.87½	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.85	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	1.75	"	—
Old Corrugated Containers	1.00	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¼	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—
(Hard Fiber)			
Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	.26	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1	.07¼	@	.07½
New White No. 2	.04½	"	.05
Light Silesias	.04½	"	.04¾
Silesias, No. 1	.04	"	.04¼
Black Silesias, soft	.03¾	"	.04
New Unbleached	.07¼	"	.07½
Washable Prints	.03¾	"	.03½
Washable No. 1	.02	"	.02¼
Blue Overall	.04½	"	.05½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales	.03¼	"	.03½
New Black Soft	.02¾	"	.03
New Dark Seconds	1.75	"	2.00
Khaki Cuttings—			
No. 1 O. D.	.03	"	.03¼
No. 2 Mixed	.02¼	"	.02½
Corduroy	.01¾	"	.02¼
New Canvas	.04¾	"	.05¼
New Black Mixed	—	"	.02½

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
White No. 2—Repacked	2.90	"	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
Sisal Rope	3.75	"	—
Mixed Rope	.75	"	1.00
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Ledger, colored	1.87½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Box Board Cuttings	.72½	"	—
Jute Corrugated Cuttings	.90	"	—
Overissue News	.85	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices

No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Overissue News	.85	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old Corrugated Containers	1.00	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	4.50	@	—
Sisal Rope	4.50	"	—
Mixed Rope	1.00	"	1.25
Transmission Rope—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.25	"	5.50
Jute Carpet Threads	3.25	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	—	"	4.00
Scrap Sisal	4.25	"	4.50
Scrap Sisal for Shredding	4.75	"	5.00
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	4.50
Aust. Wool Pouches	5.75	"	6.00
New Burlap Cuttings	5.50	"	5.75
Heavy Baling Bagging	5.50	"	5.75
Paper Mill Bagging	3.00	"	3.25
No. 2 Bagging	1.35	"	—

* OPA Maximum Price.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04¼	@	.04¾
Fancy Percales	.04¼	"	.05
New White No. 1	.08	"	.08¼
New Light Flannelettes	.06	"	.06¼
Canton Flannel, Bleached	.08¼	"	.08½
Underwear Cutters, Bleached	.08	"	.08¼
Underwear Cutters, Unbleached	6.50	"	6.75
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03¼	"	.04
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.08¼	"	.08½
Blue Cheviots	.04¼	"	.05
Fancy	.02¾	"	—
Washable	.01¾	"	—
Cottons According to Grades—			
Blue Overalls	—	"	.05½
New Black, Soft	.03¾	"	.04
Khaki Cuttings	.04½	"	.04¾
O. D. Khaki	.04½	"	.04¾
Corduroy	.02	"	.03½
New Canvas	.06	"	.06½
B. V. D. Cuttings	.07¾	"	.08

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—
Miscellaneous	3.20	"	—
White No. 2—			
Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.10
Thirds and Blues, Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—
No. 2	1.45	"	—
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.35	"	—
Quality B	1.20	"	—
Quality C	.95	"	—
* Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices.

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.17½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—
No. 1 Roofing Rags	1.55	"	—
No. 2 Roofing Rags	1.45	"	—

Goodrich Announces New Rubber

Development by its research laboratories of a superior type of hard rubber made from Ameripol, the synthetic rubber which its chemists created, is announced by The B. F. Goodrich Company, Akron, Ohio.

According to a report just issued the new synthetic hard rubber will stand temperatures 100 degrees Fahrenheit higher before softening than the best hard rubber made from natural crude.

B. F. Goodrich sales engineers point out that the new development will extend the field of hard rubber, since is overcomes many of the limitations which had restricted the service of this type of rubber under extremely severe conditions.